UNIVERSITY OF ALBERTA

FACTORS CONTRIBUTING TO WRITING DEVELOPMENT IN DEAF INDIVIDUALS

by

CARMEL BRIGID WALSH ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of

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in

SPECIAL EDUCATION - DEAFNESS STUDIES

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled FACTORS CONTRIBUTING TO WRITING DEVELOPMENT IN DEAF INDIVIDUALS submitted by CARMEL BRIGID WALSH in partial fulfillment of the requirements for the degree of MASTER OF EDUCATION in SPECIAL EDUCATION-DEAFNESS STUDIES.

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DEDICATION

THIS THESIS IS DEDICATED TO

KIERAN

WHO IS AND CONTINUES TO BE MY INSPIRATION

ABSTRACT

Deaf adults and teachers of the deaf were asked to provide their opinions of writing development. Two questionnaires sought opinions about what influences, believed to promote writing ability, were experienced by deaf adults and the view of helpfulness of experiences by deaf adults and teachers. Forty deaf adults and twenty six teachers participated.

Deaf adults were divided into "successful" and "non-successful" writers according to a self assessment of writing skills. "Successful" deaf adult writers found home experiences more helpful than did "non-successful", and attributed writing skill largely to personal efforts. All deaf adults judged technology use more helpful than did teachers. Teachers deemed the attitudes of students, teachers and parents, and home support as most important.

Recommendations include reading and writing practice, increased use of computers for interactive writing, meaningful conversations, and preparatory work for expressing feelings in writing. An extensive list of teaching strategies is also included.

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CHAPTER I INTRODUCTION

The development of reading and writing skills in deaf students is a major focus of researchers and practitioners in the field of deaf education. It is accepted that hearing loss impacts the development of literacy. A child who has a hearing loss and hence, a disrupted experience with auditory based language upon which reading and writing is based, is likely to face difficulties with written expression (Webster, 1986). Carver (1989a) suggests that comprehension of reading material, and expressing oneself in writing are difficult but not impossible tasks for deaf individuals. It is on those individuals for whom a hearing loss creates a substantial or potentially substantial difficulty in literacy development, that this research is focused. Taking a lead from Carver (1989a, 1989b), who reminds us that, despite difficulties, many deaf people have developed their English writing skills, this research was designed to determine what experiences promote development of English writing skills. Therefore the opinions of deaf adults, about factors they experienced while learning to write, were sought through a questionnaire survey. Teachers of the deaf and hard of hearing were also consulted for input, thereby providing information and viewpoints from two rich sources of information.

Current research on writing development looks at the environmental factors that influence learners rather than on the individual. The research presented here explores the extent to which influences, currently believed to promote the development of English writing ability, have been experienced by deaf students and how valuable those influences are viewed to be, by deaf individuals. Teachers of the deaf are also asked for their views on the contributions of various influences on the writing development of their students.

This chapter provides the background information which underlies the importance of literacy development, specifically writing ability, to the deaf person. It also presents definitions of terms, and an overview of the entire research project.

Background and Issues.

The literature on education for the deaf is replete with references to the low levels of achievement in English reading and writing. Quigley (1982) and Nash (1992) stated that reading and writing levels for deaf high school leavers rarely exceed the grade 3 or 4 level. The fact that the level of writing proficiency has remained relatively static over the years points not only to a quandary for deaf individuals but also to an irony. It is through the written word that deaf individuals share in the literacy of the community at large. Writing has not only educational importance, but also serves social, employment, and general functioning purposes (Maxwell, 1985).

Proficiency in the use of print and written information is an ever increasing necessity for functioning in today's society (Paul, 1993). The requirement for English based literacy in the work place is one which is leaving most deaf school leavers at a decided disadvantage. Low levels of literacy (reading and writing) achievement are restricting access to both higher education and employment opportunities for these pupils. Continuing technological advancements and a move towards a more information-based society (Malone, 1985), coupled with a decline in manufacturing type occupations, to which deaf people have historically gravitated, is likely to diminish access further.

A myriad of educational strategies and teaching techniques employed over the last century, has failed to alleviate the problem of low writing achievement among deaf children (Carver, 1989a). The level of writing skills of deaf students has shown little change over the past century. Quigley and Paul (1984) pointed out that Thompson (1936) undertook extensive analyses of written language samples from 800 deaf children. The types of errors detailed in Thompson's study are the same as those being identified today.

Research studies which investigated writing and its component processes and skills, have shifted in emphasis in recent years. Traditionally, researchers examined the written productions of deaf children for consistent errors. The more recent trend is to view writing as a communicative process. Currently, researchers look at the behaviors that occur during the process of writing and at the influences that promote writing ability. They also define sub processes involved in writing namely, planning, writing and revising or editing. In doing so, they turn their attention to the writer at work, rather than the product. Having taken this perspective, many researchers deem that young deaf children follow a normal route of early writing development, although considerably delayed (Webster 1986; Ewoldt, 1985). Deaf children appear to reach a plateau in both reading and writing development at about the grade 3 or 4 level (Quigley, 1982). Reason for the delay remains largely attributed to language deficiencies in deaf children, lack of access to discourse elements of communication, and difficulties in reading (Clarke, Rogers & Booth, 1982; Quigley, 1982; Quigley & Kretschmer, 1982; Webster, 1986; Maxwell & Falick, 1986).

Having placed writing in the context of communication, acknowledgment was given to other factors which influenced writing performance. These are educational, social, cultural, and personal factors (Clarke, Rogers & Booth, 1982; Craig & Craig, 1983; Padden & Ramsay, 1993). Kretschmer (1982), referring to the current orientation on the psychology of deafness, stated that proponents of the view hold that "few if any differences are believed to exist between deaf and normal hearing individuals in terms of perceptual and cognitive abilities" (p. 51), and that deficits in academic performance of deaf individuals can be "ascribed to environmental factors" (p. 51).

Design of the Study

The importance of writing to deaf individuals is well documented, and much research details the characteristics of deaf individuals' writing. Very little research however asks deaf individuals to reflect on their own experiences and provide input regarding the factors that promoted their own writing development. Carver (1989a) stated that the field of education of the deaf, "has yet to . . . involve the deaf themselves"

(p. 129). As a move in that direction, this research elicited opinions, information and suggestions from deaf participants about their experiences learning to write in English. They were asked to comment on the existence and helpfulness of factors believed to promote writing ability. Teachers of the deaf and hard of hearing were also asked to comment on the value of these same influences on the writing development of their students. Deaf adults and teachers of the deaf were therefore provided with a means by which they can contribute their unique knowledge to the research base.

The design of this study was arrived at by reference to a similar study conducted by Dolby (1990) which, among other things, looked at retrospective judgments of deaf adults regarding influences that most contributed to their English language development. As well, another opinion questionnaire study was conducted by Fox and Siedow (1992). It looked at undereducated adult's retrospectives of their home environment and its effect on their literacy development. These two studies provided the impetus for the topic and design of this research. In addition, they provided beginning models of the questionnaires and questionnaire items. Current research defined additional issues to be addressed in the questionnaires.

Deaf adults were consulted in response to Carver's (1989a) charge that deaf individuals should be provided with a means to contribute more to their own education, and with the understanding that deaf people can provide special insight into their own unique learning experiences. Phillips (1992), who worked with non-academic adult writers also suggested that inquiry into adult remembrances of writing instruction may lead to improvement in that instruction. Because writing instruction is largely a school related domain, teachers were also deemed an invaluable source of information. Teachers views were then considered necessary to provide an overview of current trends in teaching writing. Therefore, a second questionnaire was designed for teachers.

It is understood that recollections may become clouded by time, or biased by subsequent knowledge and that teachers comments could reflect current trends in research rather than actual practice. These are limitations inherent in the study. Nevertheless, a questionnaire was deemed an efficient method of collecting information and opinions from 2 levels of expertise. The prospect of sharing personal opinions, experiences, and philosophies may also have provided an incentive for participation in the study.

Definition of Terms

Terms used in the field of deafness and deaf education are not always clear. One definition rarely encompasses the audiological, educational, as well as social parameters that each term can encompass. It is necessary to define key terms operationally.

-*hearing loss* is a term used to describe the condition of having a loss of hearing measured in decibels (dB). It is generally used in conjunction with one of the following descriptors to designate the degree of loss: *mild* (a loss of 26-40dB), *moderate* (a loss of 41-70dB), *severe*(a loss of 71-90dB), or *profound* (a loss 91dB or greater) (Moores, 1987).

- *hearing impairment* has been a general term used to define a loss of hearing severe enough to produce disorders of communication. It has been used to refer collectively to both Deaf and hard of hearing people (Rodda & Grove, 1987). The term 'hearing impairment' is used less frequently in recent literature. It is used in this research only when citing literature where that particular terminology exists.

- *deaf* can apply to an audiological definition of degree of hearing loss or to a social, linguistic, cultural affiliation (the latter appears with an uppercase 'D'). The term *deaf* (lower case 'd') is an audiological term that describes a person with a hearing loss sufficient enough to preclude the understanding of speech through the ear alone, with or without a hearing aid. Those who are *deaf* by audiological definition generally have a severe or profound hearing loss (Moores, 1987).

The term *Deaf* (uppercase 'D') is a sociological term applied to those individuals who have a cultural and linguistic affiliation with Deaf people and are part of the "Deaf

Community " (Carver, 1989a). Deaf people (when described audiologically) generally have severe to profound hearing losses but because *Deafness* implies membership in a cultural group, some *Deaf* people have hearing losses that would be audiologically categorized as moderate or even mild (Rodda & Grove, 1987).

The intention of this research was to gain information from deaf people without dictating a definition. Therefore, although reported, level of hearing loss was not used to define deafness. It was assumed that those who undertook the study considered themselves either audiologically or culturally deaf. The term *Deaf* (capitalized) is used during discussions where strictly the cultural definition applies. Otherwise the word is not capitalized.

- *Deaf Community* is a group of people who have a hearing loss and who share a common language (American Sign Language), set of values and experiences, and a common way of interacting (Baker-Shenk & Cokely, 1980).

-*Hard of Hearing* person has a significant hearing loss with or without amplification, wherein use of residual hearing implies aural/oral communication (Alberta Education, 1995).

-*Prelingual Deafness* refers to the condition of persons whose deafness was present at birth or occurred prior to the development of speech and language (Moores, 1987, p. 9). Prelingual deafness is generally believed to be deafness that occurs in the first 2 years of life (Rodda & Grove, 1987).

-*Postlingual Deafness* refers to the condition of persons whose deafness occurred after the spontaneous development of speech and language (Moores, 1987, p. 9).

-*Mainstreaming/Integration* are terms used interchangeably. They refer to an educational setting whereby a deaf child spends all or part of the school day with hearing students (Baker-Shenk & Cokely, 1980) Often, in a mainstreamed setting, the student will spend part or all of his/her day in special classes to receive individualized or tutorial assistance in areas requiring additional focus (Bess & Humes, 1990). In this study, the arrangement whereby a deaf student spends part or all of his/her day in a special class, is referred to as *regular school with special classes* (Rodda & Carver, 1983).

Complete mainstreaming refers to the educational arrangement whereby the student spends the entire school day in regular classes. It is also referred to here as *regular school without special classes*. (Rodda & Carver, 1983).

-*American Sign Language (ASL)* is a visual-gestural language designed for spatial information processing which was created by Deaf people. It possesses its own syntactical structure different from that of English. It is considered to be the natural language of Deaf people throughout the United States and Canada (Baker-Shenk & Cokely, 1980; Carver, 1989a).

-*Other Sign and Sign Supported Systems* in this research refers to a broad array of invented sign systems which have been or are currently used in our classrooms. These systems generally use existing or modified ASL signs and present them in a sequence resembling that of English word order. They use English syntax "complete with English markers and modifiers which are either absent (such as articles) or present (such as verb tenses) in a totally different form in ASL" (Carver, 1989a). Included in categories described as *"other sign and sign supported English"* are:

- *Signed English* an invented sign system, as described above, which is frequently accompanied by simultaneous vocalization of words.
- *Total Communication* which originally referred to a method of communication whereby a combination of various means were employed to communicate with the deaf child. Initially this incorporated signing, fingerspelling, writing, gesturing or any combination of these. The term *Total Communication* has evolved to mean a practice whereby a manual form of communication (signs and fingerspelling) and speech are coordinated (Moores, 1987).

-The Rochester Method is a method of communications which employs fingerspelling and speech but not signs.

-Telecommunications device for the deaf/teletypewriter (TDD/TTY) these refer to a special keyboard like device, either built into the telephone or to which a telephone receiver can be attached, whereby texts of conversations can be sent and received (Bess & Humes, 1990). Early telecommunication devices for the deaf were called teletypewriters, and abbreviated as TTY (Sacks, 1990). Many deaf people refer to the device as a TTY. The terms TDD and TTY are used interchangeably in this study.

Closed Captioned Television (CC TV) is a device built into or attached to the television set whereby the transmitted signal is converted to written text of the spoken words. The written captions are displayed at the bottom of the television screen (Rodda & Grove, 1987).

Overview of Thesis Contents

As stated, investigations into the early home and school experiences of deaf adults can reveal important information regarding experiences and influences that promote writing ability. The formal development of writing skills is considered primarily a school domain, therefore teachers of the Deaf and hard of hearing also have invaluable information to offer regarding positive influences and practices. The former group can provide a personal view of their experiences, while the latter can balance this view with more objective information about tried and tested methods.

This research is an investigation of the opinions about writing development of two groups of individuals: teachers of deaf children and deaf adults. The relevant knowledge of these individuals was recorded here; the research literature is reviewed in Chapter II. Chapter II contains a review of both early and more recent research on the written work of deaf individuals and the task of writing. The importance of viewing writing, not only as a linguistic exercise, but one that has important social, cultural implications, most especially for deaf individuals is explained. A brief discussion ensues containing some views of deaf people regarding their learning and understanding of literacy.

Chapter III entitled Methods and Design describes the questionnaire that was developed for this research. It also details the methods undertaken to locate and distribute the questionnaire to groups of deaf adults and teachers of the deaf. Methods of data analysis are also described prior to presentation of the results,

The Results section, Chapter IV, describes the findings of the research. It is divided into 2 main sections. One section reports the findings from deaf adult population and the second from teachers of the deaf. These two broad sections are further subdivided, and findings presented which correspond to the sections of the questionnaire.

Chapter V provides a discussion of the findings. Their applicability and contribution to the field of deaf education is also stated.

Summary

This chapter provided an introduction to the present study. It also provided the background and rationale and operational definitions of key terms used throughout the thesis. It concluded with an overview of the structure and organization of the contents of the thesis.

CHAPTER II REVIEW OF THE LITERATURE.

This chapter provides an overview of literature relevant to the writing development of deaf students. It begins with brief coverage of an ongoing debate in the field of deaf education that concerns method of communication. From there the literature review outlines some of the difficulties apparent in deaf children's writing. These difficulties create challenges both for academic achievement and general social functioning. Traditionally, researchers have documented the syntactic features in deaf children's writing and have advocated teaching grammar as a way of overcoming difficulties (Schirmer, 1994). More recently, researchers have turned their attention to the challenge of writing as a process to be learned in the context of one's social and cultural community. They identified a number of environmental influences that are believed to promote writing ability, and advocated a number of approaches to teaching writing.

There is direct relevance between issues discussed in this literature review and the research questionnaire. Each issue presented became an item on the questionnaire. Because environmental factors can positively impact writing development, the extent to which these factors were in existence for deaf adult participants was questioned. The value placed on the contribution of environmental factors discussed in this review, comprised a substantial part of the research questionnaire. The value of the grammatical approach to teaching writing, as discussed in the literature, was also assessed by deaf adults and teachers.

Early Research into the Writing of Deaf Children.

Many of the difficulties apparent in the writing of deaf children were itemized in earlier research into deaf children's writing. During the 1960's and 1970's writing was considered an activity which consisted of discrete stages and proceeded in a linear fashion (Schirmer, 1994). Studies of deaf children's writing focused on quantitative analysis of the final product (Quigley & Kretschmer, 1982; Quigley & Paul, 1984;

Webster, 1986). Documented features of deaf children's writing included, among others, a strict adherence to subject-verb-object sentence constructions (Quigley & Kretschemer, 1982), overuse of content words and underuse of function words, subject verb disagreement (Webster, 1986), and simple and repetitious vocabulary and cohesive devices (Maxwell & Falick, 1987).

While the specific characteristics are not a focus of this study, difficulties do persist. They are mentioned here to highlight the importance of continued research into writing development for deaf children. In addition, earlier research gave impetus to the practice of teaching grammar by advocating instruction focused on the alleviation of syntactical difficulties and production of error-free finished products (Schirmer, 1994). More recently researchers have questioned the validity of focusing instruction on syntax rather than meaning (Gormley & Sarachan-Deily, 1987; Krashen, 1984; Maxwell & Falick, 1992). They suggested that only some aspects of the form and structure of writing are teachable and that teaching grammar has severe limitations. Focus on grammar in teaching has been said to create a kind of rigidity, and a "choppy, stilted style of writing" (Maxwell & Falick, 1992, p. 349).

Although the effectiveness of grammar instruction on writing development is questioned, participants in this study may have experienced such instruction. Therefore, they were asked to provide their opinions of the value of grammatical approaches to their writing development, if experienced.

Recent Research into Writing

In the 1980's, researchers generally moved away from focusing on the products of writing to examining writing as a form of communication.

Wood (1988) said that, " the effective writer must act as both the presenter and receiver of communication" (p. 163). This requires children to become more objective about their ideas and their use of language. Children must be able to disengage their ideas, thoughts, and feelings from a personal context and express them in such a way that a reader has access to their meaning. This process involves an understanding of not only the spelling, punctuation, and syntax rules of language, but also the semantic and prosodic elements of language. It also involves an awareness of audience, and an ability to take into account the perspective of the reader in order to anticipate and modify areas likely to be misinterpreted. Good writers must be able to plan, edit, self-correct, and reflect upon the use of language objectively (Wood, 1988). More recently, researchers looked at sub processes involved in writing, characteristic behaviors of effective writers, as well as influences that promote effective writing (Ewoldt, 1985, Graves, 1983, Hayes & Flower, 1986, Krashen, 1984, Stallard, 1974, Webster, 1986, Wood, 1988).

Recent Research into the Writing of Deaf Children.

As with research into hearing children's writing, recent research into the writing of deaf children focused more on the semantics of writing, the behaviors engaged in during writing, and on factors believed to promote writing development (Ewoldt, 1985, Gormley & Sarachan-Deily, 1987, Maxwell & Falick, 1992, Webster, 1986). This shift highlighted the belief that writing (and reading) are not skills to be taught in isolation, but are parts of an integrated process of literacy that is embedded in one's world knowledge, linguistic mastery (Maxwell & Falick, 1992), as well as one's socio-cultural, educational, and personal experiences (Schirmer, 1994, Webster, 1986, Quigley & Kretschmer, 1982). Descriptions of the syntactic characteristics features of deaf children's writing gave way to an examination of environmental influences that promoted development.

The difficulties displayed in deaf children's writing were said to be attributable largely to lack of access to language and elements of discourse (Maxwell & Falick, 1992). They stated that literacy marks the transition between home-based conversational discourse to more discursive strategies of written discourse. "Differences between home-based discourse and those of the schools interrupt the smooth transition" (p. 345) from home to school and thus to literacy. Access to communication, as well as lack of prior knowledge of language are highly influential factors in the development of speech (verbal or signed) and writing. Wood et al (1986) conducted a longitudinal study which examined the process of communication and teaching that deaf children experience, as a way to unlock the mystery of low literacy levels. They commented on the importance that conversation played in the development of literacy and suggested that teachers, who simplify their language for young deaf children do not promote the development of "sustained, projectful interactions" (p. 44) that are a prerequisite to literacy.

Webster (1986), Maxwell and Falick (1992), and Gormley and Sarachan-Deily (1987) concurred that the difficulties apparent in the writing of deaf children reflect lack of exposure to the discourse elements of English and therefore an inability to consider audience. The most important aspects of coherence in writing, they said, are rooted in the communicative and pragmatic use of English to which deaf children typically have little access (Maxwell & Falick).

Quigley and Kretschmer (1982) stated that, "The low levels of written language and academic achievement are largely reflections of deficiencies in reading performance" (p.86). They added, "a well-developed internalized language system seems to be the necessary foundation for reading" (p. 86) and that "adequate development in written English depends upon good reading skills, which in turn depends upon good internalized standard English" (p. 84)

This more global, contextualized view of writing development removed the magnifying glass from the grammatical errors of the child and placed the process of writing into the larger framework of literacy development upon which there were interacting socio-cultural, educational, and personal influences . The extent to which these positive influences were in existence for deaf adults is the focus of this study. If they were in existence, the value placed on such experiences towards writing development were examined. Likewise, teachers provided their opinions of these influences. The next section contains a discussion of influences specifically. Those discussed formed the substance of the questionnaire. Before proceeding however, it is necessary to highlight the importance of writing to the deaf population.

Social Functions of Writing

Some researchers (Szwed, 1981; Heath, 1981) proposed that traditional views of the purposes for writing are outdated. Traditional views were those which saw the functions of writing in terms of text-based literacy. The ever increasing need for reading and writing in our everyday lives belies this view. Writing should be viewed in terms of its cultural and social context. A quick inventory of the social and cultural purposes for writing, for any individual, reveals a number of uses other than school related. For the deaf individual, these uses are more pronounced because it is through the written word that deaf people share not only in the community at large but, in some cases, with their own community (Maxwell, 1985). Included in these functions of writing are communicating with family members, hearing friends and strangers, communicating with business and work associates, letter writing (Maxwell), and more recently for communication via telecommunication devices for the deaf (TDD's) (Carver, 1989b) and electronic-mail.

In proposing ten factors which promote literacy among deaf children, Carver (1989b) identified one as "writing as communication." He stated that writing as a means of communicating with the larger society is often overlooked in research and educational practice but is a reality for deaf individuals. He related the anecdote that some deaf persons with well developed literacy skills, "attribute their superior literacy status to the fact that they communicated with their parents and other hearing persons through the pencil and paper method" (p. 15).

Padden and Ramsay (1993), in a discussion of the meaning of literacy to the Deaf Culture, reminded that the functions of writing do not begin and end with the school years but were deeply embedded in the social and cultural context of the deaf individual.

Deaf individuals, they stated, "have specific purposes for reading and writing and find ways to accomplish their purposes" (p. 98) .

Factors that Promote Writing Ability

Factors believed to promote writing development are discussed in current research. These factors point to the importance of a delicate interplay between educational , socio-cultural, and personal influences. It is upon these influences and their existence in the experience of deaf individuals that this research is primarily based. Therefore it is necessary to incorporate a discussion of these influences into the literature review.

Factors that promote writing ability are discussed in terms of home influences, technology use, educational practices (which include teacher practices in the pre-writing, writing, and revising stages of the writing process, and teacher attitudes), and personal attitudes towards learning to write.

Home Influences

Influences of the home are known to promote the development of literacy among children (Fox & Siedow, 1992; Graves, 1983; Krashen, 1984, Schirmer, 1994) . The importance of such experiences as being read to at home, using notes for communication, and being raised in an environment where print material is available and valued are discussed. The questionnaire in this study contained an item which corresponded to each of these points. The extent to which the influences were in existence for the deaf sample group, and the value placed on them, by teachers and deaf adults, was examined.

The recent concept of emergent literacy places learning to read and write in the realm of a social, cultural phenomenon which begins prior to the school years (Schirmer, 1994). The cultural and family group into which the child is born plays a significant role in determining the child's attitude towards reading and writing. Schirmer (1994) added that awareness of and ability to write emerge in response to environmental print and as a result of the social context of the child. Fox and Siedow (1992) and Krashen (1984) found positive relationships between reading in the home and literacy development. Graves (1983) reported that parents of better writers also read for themselves therefore demonstrating the value of print. Children who were read to were more likely to be better writers.

Carver suggested that a positive relationship existed between reading achievement scores and socio-economic status. This assertion was supported in a longitudinal study that examined demographic factors of deaf adolescents in public schools (Kluwin and Stinson, 1993). Family socioeconomic status were said to be fairly reliable predictors of academic achievement. Although the incidence of deafness is not necessarily associated with social class, (Rodda & Grove, 1987), the socioeconomic status of parents is said to have an effect on the academic achievement of the deaf child. For these reasons deaf adults were asked to identify both if they were read to at home, and their parents' occupations.

Maxwell (1985) examined the role of writing in homes with deaf children. Writing for communication was virtually nonexistent in families with hearing parents. For these children, two factors known to promote writing ability were absent. Not only was communication likely to be difficult, but children were not actively involved in using print. In homes with deaf parents, print played a much more prominent role. Deaf children of deaf parents were socialized into the communicative and cultural functions of print through exposure to such devices as Closed Captioned TV (CC), telecommunication devices for the deaf (TDD's), and the practice of note writing for communication. These children were likely to share communication modes with their parents and were interacting with print. Maxwell (1985) did not compare the academic performances of these two groups of children but related that deaf children of deaf parents generally perform better than do those with hearing parents.

Technology

As mentioned earlier, deaf children of deaf parents were more likely to use technological devices (CC devices and TDD's) (Maxwell, 1985). Such technologies promote a sharing of information with the community at large. Carver (1989b) stated his opinion that:

> modern technology in the forms of captioned television, TDD's and microcomputers now offers deaf children and adults the finest opportunity in the history of the deaf to upgrade their literacy status.
>
> (p. 19)

In discussing the use of captioned television, Carver cited an example where deaf children, after exposure to television that was close captioned, demonstrated improvement in their comprehension and sight vocabulary skills (NCI, 1985 in Carver, 1989b). While the benefits of closed captioning is not disputed, further research would be necessary to substantiate such claims.

If it is necessary to place wring in the socio-cultural context of the child, then it is also imperative to look at the influence of the TDD on the writing development of deaf children. Use of the TDD has opened up communication lines between deaf people and between deaf and hearing people. In constitutes, real, pertinent conversation through the medium of writing, with immediate feedback. Carver (1989b) relayed his views that research into the benefits of TDD use on literacy is sparse but an area worthy of further investigation.

Progress reports from those involved in the implementation of The Electronics Network for Interaction (ENFI) projects in Gallaudet University and other American post secondary institutions addressed the potential of computer use in the development of classroom writing (Miller, 1988; Payton & Horowitz, 1988; Hunt, 1988; Payton, 1988). A number of benefits were noted. Payton and Horowitz (1988) observed that students involved in the ENFI projects experienced fewer blocks to writing than has been observed in other students. The network was used for a session of idea generation and opinion sharing whereby students "chatted" in written English about that which they would eventually write more formally. The transition from discourse to composition, one which has been mentioned as a difficulty for deaf students, was more easily made. Some of the characteristics of the ENFI project which were credited with promoting writing development were: immersion in the writing process for different purposes; engaging in writing for "talk"; exposure to the writing of others; immediate feedback on both meaning and structure.

Positive reports regarding computer use to promote writing development prompted questions regarding exposure and relative value to both deaf adults and teachers who participated in this study. A question about computer use was posed to both deaf adults and teachers in this study, as were questions about TTY use and exposure to closed captioning.

Educational Influences

Current research addresses the value of teaching writing as a process (Schirmer, 1994; Ewoldt, 1985; Graves, 1983; Phillips, 1992). The process consists of 3 stages called pre-writing, writing, and revising or editing. Proponents of teaching writing as a process advocate such school activities as teachers reading to students, collaborative writing, exposure to different forms of writing, modeling of writing and editing, writing conferences, as well as free-choice writing for students. Teacher attitudes are also said to play a major role in the writing development of students and are also discussed. Teacher practices believed to promote writing ability within each stage are discussed in this section of the review.

Factors Promoting Development During the Planning Stage of the Writing Process

The planning process refers to the preparation for writing. During this time, writers generate topic ideas (Schirmer, 1994), listen to their ideas before writing them down (Webster, 1986), and decide how best to represent those ideas (Hayes & Flower, 1986).

Allowing students to choose their own topics for writing is widely advocated by the supporters of the process approach (Schirmer, 1994; Graves, 1983; Conway, 1985). Conway reported on the value of free choice writing to deaf kindergarteners. He conducted a long term, investigative study in which he made 23 observations in a kindertarten classroom. He stated that choosing topics:

> allows children to maintain control of their writing, which in turn, "gives children the opportunities to explore, experiment, discover, consolidate, and refine their understanding of writing as a mode of communication"
>
> (p. 105).

Graves, an advocate of the process writing approach, made many recommendations to enhance writing development. Recommendations were drawn from findings from a 2 year study that looked at teaching that fosters written fluency (1983). Graves advocated allowing children to select their writing topics at an early age. He stated that too many older writers have difficulty choosing topics and that,

> children who are fed topics, story starters, lead sentences . . . as a steady diet for three or four years rightfully panic when the topics have to come from them.
>
> (p. 21).

Free choice of topics provide encouragement or incentive for the child to write. Goldberg, Ford and Silverman (1984) who supported a much more rigid method of writing instruction for their deaf ESL students (they advocated emphasis on grammar and structure instruction), and whose students rarely engaged in free writing, stated that practice in writing connected texts should be allowed in topics, "largely of [the student's] own choosing" (p.7).

Deaf adults and teachers in this study, were asked to evaluate the helpfulness of being given the freedom to choose their own topics for writing exercises.

Factors Promoting Development During the Writing Stage of the Writing Process

A number of practices in which teachers can engage during the writing stage can be instrumental in promoting writing development. Discussed here are the experiences of being read to in school, having the opportunity to practice writing, and teachers and students discussing writing. Each factor discussed here was included in the questionnaire for evaluation by teachers and deaf adults.

Over a period of 3 years, Ewoldt (1985) studied the natural development of writing skills of young deaf children in a pre-school setting. From the start of the pre-school year, these children demonstrated the same stages of writing development found in their hearing peers. Ewoldt attributed the success of the program to the attitudes of the teachers and the environment of the classroom. The teachers' role was more of a facilitator than teacher. Teachers provided:

> a) extensive input about how printed language works (through reading to the children and taking their dictation); b) a framework within which the children could establish and work toward their own goals (the free writing period); and c) a climate that encouraged risk-taking while at the same time allowing the child to relinquish risk whenever the pressure became too great. (p. 124).

Graves (1983) supported Ewoldt's observations by commenting on the contribution that reading provides to the writing process. Reading done by teachers for students, or by students themselves, "provides different voices and topics for the children to sample" (p. 29). In being exposed to different kinds of literature, children see many purposes for writing and may experiment with different forms and expression in their own writing (Graves, 1983).

Exposure of students to other forms of writing, either through having it read or modeled for them, was considered by Isaacson and Luckner (1988) as one of the 5 most important instructional approaches to teaching writing to deaf children. They commented on the importance of children borrowing from others' works in terms of content and form.

Providing ample opportunity to practice writing is an essential ingredient in teaching the writing process. Conway (1985) described the process of learning to express oneself in writing as experiential. Children, he said "learn about writing through writing" (p. 91). Writing, at the early stages, can be in the form of scribbling or drawing pictures either to relay a message or simply explore the mechanics of writing (Conway, 1985). These, Conway explained, constitute early attempts at writing and should be encouraged.

French, a language content specialist, detailed three forms of writing practice as essential to teaching writing (1995). These were" shared writing (where the teacher shared with the student), guided writing (where the student wrote and the teacher offered suggestions), and independent writing (where students wrote privately). The latter provided students with the opportunity and theoretically the freedom to explore different forms and conventions of writing (p. 9).

The role of teacher as facilitator was commented on by Graves (1983) who stated that, "the tone for writing is set by what the teacher does, not by what the teacher says" (p. 12). He advocated an interactive approach to writing development through conferencing with students. He stated that, "instead of giving writing to children, [the teacher should] share it with them . . . write with them" (p. 12). Conferences could be for the purpose of discussing content, design, process, editing, or for the evaluation of writing. Conferences have been described as the heart of the process writing approach (Calkins, 1986, cited in Schirmer, 1994). It is through conferencing that students can be helped to develop and refine text by responding to teachers questions and probes, and by engaging in discussions about their writing.

Participants in this study were asked to comment on their experiences with conferencing, as well as having the opportunity to write, being read to by teachers, and exposure to different styles of writing on which to model their own writing.

Practices Promoting Development in the Revision or Editing stage

Revising and editing is the last stage engaged in by writers and also one much discussed in current research. Revision is the subsequent review of the written work to make changes that improve the cohesion of the text (Webster 1986). Gormley &

Sarachan-Deily (1987) observed a lack of use and apparent lack of understanding of the revision process by deaf students . Isaacson and Luckner (1988), in a proposed model for teaching language to deaf students, added that revising and editing should be modeled for the students. Schirmer (1994) and Graves (1983) agreed that helping students to revise and edit through conferencing leads to higher level revision and editing strategies (p. 153). Higher level referred to attending to the meaning in the writing, rather than to local grammatical aspects or sentence-by-sentence editing.

With reference to revising and editing, participants in this study were asked to provide their opinions of the value of teachers showing them how to clarify their writing. As well, participants were asked if teachers correcting the grammar in writing was experienced or helpful.

Teacher Attitudes

Attitudes of teachers toward the writer and the written work can also play an important role in the development of writing skills. Graves (1983) and Ewoldt (1985) stressed the importance for young children to believe they are writers and to be prompted to read like writers from the moment they enter pre-school or school. With reference to teaching writing to deaf kindergarten children, Conway (1985) noted that:

> those working with hearing impaired children (parents, children, and researchers) need to focus on the capabilities of the children and their capacity to learn and not on the possible deficits or impediments a hearing impairment may present.
> (p. 104).

It is imperative for young deaf children to feel that their writing is valued by their teachers (Brannon and Livingston, 1986). Graves (1983) while addressing particular writing difficulties, detailed the importance of stressing for students that their writing is worthwhile and has something to say that is understandable and meaningful to others. Therefore, the extent to which these positive teacher attitudes existed for the deaf adults was explored. As well as the extent to which deaf adults and teachers viewed their value in promoting writing ability was examined in this research.

Personal Attitudes

Of importance to writing development is the writer's feeling of confidence, self-esteem, and willingness to take risks. In this realm, deaf individuals have been said to have great setbacks. Carver (1989a), in a critical review of literature related to literacy development, suggested that past school practices and philosophies have created problems among deaf children which may have hindered their literacy development. He explained his view that subscription, by professionals, to the medical-deficit view of deafness, and the devaluation of American Sign Language have sent the message to deaf children that their circumstances are less than desirable, their hearing losses need to be fixed, and that their language is less worthy than English. These messages were likely to have created problems of self-esteem for deaf individuals and impacted their desire and ability to learn to read and write in English. Carver added that deaf students frequently have a fear of writing which may block their development in this area. This, he said, may also be the result of excessive correction of syntactic errors by their teachers.

Phillips, in a study of the writing of nonacademic adults (1992), reported that many adults in recalling their schooling, attributed writing difficulties to preconceived notions of themselves as ineffective writers. These notions persisted into adulthood and the resulting blocks to writing persisted. The message so often sent to deaf school children is that they are poor writers; this belief may remain and inhibit further development of writing ability.

In light of the importance of personal view of oneself as writer to writing development, the questionnaire used in this research addressed this issue. Whether or not their writing was criticized or valued by their teachers, and the extent to which deaf adults felt it was important to write in English were presented for comment. Deaf adults and teachers alike were asked to rate how such factors contribute to writing development.

Views of the Deaf on Education for the Deaf

Although many practitioners and researchers in the field of deaf education have referred to the sad state of literacy among deaf adults, very little research exists which provides retrospectives of deaf people on their education, specifically writing development. Traditional teaching techniques that focus on grammar were said to be detrimental to the development of effective writing skills (Carver, 1989a). Carver reflected on his own experiences learning to read and write and offered that educators should,

> instill in deaf students a sense of independence and a value of reading and writing by encouraging them to rely on print media as their major source of knowledge in all subject areas. (p. 129).

Finn (1995) in explaining her development of self concept made many comments on her experiences as a deaf person learning to write in English. She detailed episodes of copying sentences without understanding the written word or purpose of the writing. She related the difficulties in understanding language as a result of completing cloze procedure type exercises, and, in retrospect, felt that low expectations of her writing hindered development. It was not until 23 years of age that she understood writing as a tool for communication and personal expression. She suggested that, for her, an instructional focus on grammar did not promote her writing development. It was not until she realized the real communicative purpose in writing that her writing developed.

Conclusion

Traditional studies of writing of deaf students have focused on the perceived weaknesses of the written work, primarily in the areas of surface level structure. More recent studies placed writing within the realm of literacy development which is influenced not only by educational factors, but also socio-cultural, linguistic, technological, and personal. It was suggested that lack of auditory input is not the sole cause of difficulties with English literacy skills. Instead deprivation of consistent language input, lack of exposure to the discourse features of communication, reading difficulties as a result of lack of exposure to language, and a mismatch between home and school may largely account for the delay in writing ability apparent in most deaf individuals (Clarke, Rogers & Booth, 1982; Maxwell & Falick, 1986; Quigley, 1982; Quigley & Kretschmer, 1985; Webster, 1986). It was also suggested (Carver, 1989a) that illiteracy may be a product of external factors and, in part, a consequence of teaching practices that have focused on grammar and have served to promote insecurity in the deaf student as a writer.

The shift in research propelled changes in teaching practices. Focus on analytical, local elements in writing gave way to more holistic instruction which emphasized that attention to the "function (meaning) [of writing] over form (syntax) may be more beneficial" (Moores, 1987, p. 286). Consistent exposure to comprehensible language, reading, collaborative writing practice, and school practices which complement a child's cultural experiences with print, were suggested as ways to improve both the semantic and syntactic levels of writing (Graves, 1984; Krashen, 1984; Maxwell, 1985; Maxwell & Falick, 1992; Webster, 1986).

Current researchers attributed to deaf children, "the cognitive abilities to become proficient readers and expressive writers"(Schirmer, 1994, p. 140), how this potential can be realized is the question that remains to be answered. Carver (1989a) as stated earlier, suggested that the field of education of the deaf, "has yet to . . . involve the deaf themselves" (p. 129). In recognition of this point, the current research provided deaf people with a voice. They were asked to provide retrospectives on their own experiences learning to write in English. In doing so, they were given the opportunity to comment on the helpfulness of influences outlined in this review, if experienced. In addition, they were also asked to provide information and advice to educators of the deaf and researchers about teaching strategies, school practices and personal experiences that they view as most beneficial to writing development.

Teachers of the deaf and hard of hearing were also consulted for input into this research. They were asked to explore their own philosophies and teaching strategies and also provide insight into the influences and practices that they have found to promote writing development for their deaf students.

The Present Study

The primary focus of the present study is on the early experiences of deaf adults. While the heterogeneity of the deaf population is recognized and solutions may need to be highly individualized, it was felt that deaf individuals would be able to add to the current body of knowledge. The study, looked for common experiences which were most instrumental in motivating the individual and promoting writing ability. In addition, teachers of the deaf and hard of hearing were consulted to share their special knowledge and provide their opinions on the helpfulness of environmental influences and different teaching practices which have been advocated at different times

Statement of Research Questions.

Numerous circumstances, events, or experiences were presented in the literature. Some of these circumstances were said to effect writing development positively, some (grammatical approaches) were said to be outdated ideas no longer believed to be influential in promoting writing development. In light of suggestions that deaf people are rarely consulted regarding their own education (Carver, 1989a), it was deemed essential to examine the existence or non-existence of circumstances, and their relative helpfulness to writing development with those who have the experience and can reflect on their experiences. It was also deemed important to discuss the extent to which suggested practices were considered helpful with a second level of expertise. Therefore, questionnaires geared towards deaf adults and teachers of the Deaf and hard of hearing and were designed to answer the following research questions:

1. Of those influences, believed to promote writing ability, which ones have been experienced by deaf adults?

2. Of those influences, believed to promote writing ability, and experienced by deaf adults, which ones do deaf adults view as most helpful in the development of their English writing skills?
3. Of influences/practices currently believed to promote writing ability, how helpful do teachers of the Deaf and hard of hearing view them to be for their students?

CHAPTER III METHOD AND DESIGN

Introduction

This chapter contains information regarding the method and design of the study. Included are sections describing those who participated in the research, the instrument used to gather data, the specifics of data gathering techniques, as well as the methods of data analysis used to report findings.

This research was intended to determine what influences believed to enhance writing skills, have been experienced by deaf adults and, how beneficial those factors are judged to be in the development of writing ability. Deaf adults then became the subjects in one of the research groups. It was understood that, in reflecting upon their own experiences, this group of people would provide a personal account of the value of their experiences and therefore invaluable information to the field.

In order to provide further information from knowledgeable sources, a second group, teachers of deaf and hard of hearing children, was also consulted for input. In focusing on these two groups, information was gained from those individuals primarily involved in the education process.

The investigator learned, during the early stages of this research, that the issue of English literacy development is one which evokes a great deal of feeling in many deaf individuals. In order then to locate groups of deaf adults who would be receptive to completing a questionnaire about the development of their English writing skills, a Deaf individual active in the Deaf Community was consulted. This individual suggested four possible sources of research participants in Western Canada. All four possibilities were explored and, in each location, a number of willing participants were found. A fifth contact was made by the researcher. The findings then are the result of a small, in-depth study of deaf people willing to reflect upon the positive aspects of the task of learning to write in English. The findings also comprise the opinions of those involved in the profession of facilitating this development.

Subjects

The participants in this study comprised two groups and are described in this section.

Group 1

Group 1 participants were 40 deaf adults ranging in age from 20 - 54 years. The mean age was 30.4 years. The degree of hearing loss ranged from moderate to profound. All participants were aware of the purpose of the study and completed the necessary consent forms.

Group 2

Group 2 participants were 26 teachers of the deaf who were teaching in one of a number of possible school environments where deaf students attend. All teachers were apprised of the purpose of the study and completed the appropriate consent forms.

It is important to note that the two groups of participants were not mutually exclusive. Membership in one group did not preclude membership in the other and, as a result, 4 individuals who were 'deaf' teachers of the deaf became participants in both groups.

Instrument

Two separate but similar questionnaires were developed and distributed by the researcher. Those specific factors or influences, discussed in the literature as influential in the development of English writing skills were a primary focus. Each questionnaire was completed by a small pilot group prior to general distribution.

Questionnaire - Group 1

The instrument distributed to Group 1 participants was a 4 part questionnaire (see Appendix A). Part 1 was designed to elicit demographic information. That is, level of hearing loss, age at onset of hearing loss, education level completed, current assessment of writing ability, as well as writing habits. Questions also included type of school(s) attended and communication methods experienced in these schools. Part 2 of the questionnaire asked for family and background information. Part 3 contained the statements referring to practices or circumstances in the home and school which are believed to contribute to writing ability. Respondents were asked to indicate a) if the statement is true for them and, b) if true, how helpful they believe this factor was in enhancing their writing ability. Participants rated the 'helpfulness' of each factor on a Likert Scale from 1 to 5, with 1 described as "not helpful" and 5 as "very helpful". This section of the questionnaire constituted the primary focus of the data analysis.

Participants were also asked to reflect upon their own experiences by responding to open ended questions in Part 4 of the questionnaire. Open ended questions elicited information about who the participants felt were most influential in the development of their English writing skills, how these people were helpful, and what suggestions participants had to enhance writing development in deaf children.

Questionnaire - Group 2

A similar questionnaire was sent to teachers of the deaf. The complete questionnaire is contained in the appendix (see Appendix B). This questionnaire contained 3 parts. Part 1 asked teachers to identify the educational setting they were involved with, grades taught, years of experience teaching deaf students, and hearing status . Part 2 contained the same list of statements presented to Group 1. In order to facilitate presentation to a different group, there were slight changes in wording but the meaning of the statements remained the same as that for the deaf adults. Teachers were asked to rate the statements on the same Likert scale of "helpfulness" as the deaf adult group. Part 3 of the questionnaire contained the same open ended questions as did Part 4 for Group 1.

Data Collection

Group 1

As stated, in order to locate groups of deaf adults who would be receptive to completing the questionnaire, a Deaf individual who was active in a Canadian Deaf

Community was consulted. This individual identified four possible locations. Of these four, three were postsecondary institutions, and the fourth was a School for the Deaf. A fifth contact was made by the researcher.

In all but one of these locations (B), a presentation was made by the researcher which outlined the purpose of the research, how it was being conducted and to request participation from those in attendance. The presentation was made with reference to the letter of introduction (Appendix C). Participants were given the option of completing the questionnaire at the time of presentation or returning it by mail at a later date. Each participant was provided with a package which contained a Letter of Introduction, a consent form (see Appendix D), the questionnaire, and where necessary, a stamped, addressed, return envelope. Each presentation took approximately 15 minutes, and time for those questionnaires completed at the time of presentation ranged from approximately 45 minutes to 1 hour and 45 minutes.

For purposes of clarity, the five locations have been labeled (A, B, C, D, E) and interactions with each discussed in greater detail below.

Location A

After receiving permission from the department head and teachers, two separate presentations were made to 2 separate groups at this Western Canadian College.

The first of these two groups comprised deaf adults who were part of a larger literacy class of both deaf and hearing individuals. Seven individuals attended the presentation. All agreed to participate in the study and completed the questionnaire at the time of presentation. A sign language interpreter and a deaf teacher of the deaf were also in attendance. The teacher, who was the regular teacher of the class, assisted with clarifying points during the presentation and also worked with two individuals to clarify questions on the questionnaire when necessary.

The second group from this location was a group of deaf adults who were enrolled in an academic upgrading program. During this presentation, two sign language interpreters were available to interpret and to assist with clarification as requested. Six deaf adults attended this special meeting and all elected to complete the questionnaire at the time.

Location B

For participation from the second Western Canadian college, the teacher of the deaf at this college was contacted, and the purpose of the research explained. This teacher agreed to distribute questionnaires to recent graduates of a pre-literacy program. To facilitate this distribution, 9 questionnaires packages were forwarded accompanied by a letter of explanation for the teacher (see Appendix E). Each package included the letter of introduction, consent form, the questionnaire, and a self addressed, stamped return envelope. Seven questionnaires were completed and returned.

Location C

The third contact for the deaf adult group was a club of Deaf and Hard of Hearing individuals at a Western Canadian university. A presentation and a request for participation was made during a regular group meeting. An FM loop system was in place for this meeting and a sign language interpreter also interpreted the presentation. Fourteen club members were in attendance. Of these, 13 agreed to complete the questionnaire at the time of presentation. Another individual requested to take a questionnaire package, to be completed and forwarded to the researcher at a later date. This questionnaire was not returned. One group member declined to participate. A total of 13 questionnaires from this contact have been included in the study.

Location D

The fourth contact was with that of a Canadian School for the Deaf. Permission was obtained from the school Principal to attend a staff meeting to introduce and explain the research. Once again with the assistance of a sign language interpreter, the research was explained and questionnaire packages were left at the school to be picked up at a later date. Six completed questionnaires and consent forms were subsequently retrieved from this location.

It was from this contact that the overlap occurred between Group 1 and Group 2. Four of these six participants responded to both questionnaires, once as a Deaf adult and once as a teacher of the Deaf.

Location E

One respondent was given the questionnaire individually. This deaf adult approached the researcher and requested to be included in the study. A separate meeting was established at which time the study was explained and the questionnaire and consent form completed.

Group 2

A total of 51 questionnaires were distributed to teachers of the deaf and hard of hearing. A letter, explaining the research and requesting a membership list, was forwarded to the past president of the Canadian Association for Educators of the Deaf and Hard of Hearing - Alberta Chapter (CAEDHH-Alberta) (see Appendix F). Forty six questionnaires were mailed to members of this association. Five additional prospective participants were contacted personally. These were individuals known to be teachers of the deaf but were not on the teacher's association membership list.

In each case, a letter of introduction (Appendix C), consent form (Appendix D), a questionnaire (see Appendix B), and a return, stamped, addressed envelope was distributed. Of the 46 questionnaires mailed to CAEDHH members, 28 were returned. Six of these, however were not used: 4 individuals returned the package indicating that they were either not teachers of the deaf or were teachers but not currently working with deaf students. One had an incorrect address (the correct address could not be located) and one was returned without a completed consent form. A total of 22 completed were eligible. The remaining 5 individuals were approached personally for participation. Four completed and returned the questionnaires for a total of 26 completed questionnaires from teachers of the deaf.

Data Analysis

The use of closed and opened ended questions permitted both quantitative and qualitative methods of data analysis. For the purposes of data analysis, the questionnaires were divided into three discreet sections.

Section 1 of the Questionnaire

Section 1, which included Parts 1 and 2 of the deaf adults questionnaires and Part 1 of the teachers of the deaf, asked for demographic information. All questions had been coded prior to distribution of the questionnaire. However, once responses were obtained, it became necessary to add new codes to some of the questions to facilitate data entry and inclusion of unanticipated responses.

To this end, on the questionnaire distributed to the deaf adults one more category of response, named 'combination' was added. A 'combination' referred to those instances where a participant indicated more than one of the possible response to the following questions:

Question #4 - "What type of school did you attend?'

Question #4b - "What method of communication was used in these schools?"

Question #5 - "When (which school years) did you learn most about how to write clearly in English?"

Question #6 - "Do you write for:"

Part 2 -Question #4 - How did your parents usually communicate with you at home?"

In the questionnaire distributed to teachers of the deaf, an additional category of "Itinerant teaching" was added to question #1 which reads "What English classes do you teach to your deaf students?"

Once coding was complete, descriptive techniques were employed to describe the demographic characteristics of the two groups.

For the deaf adults, a series of cross-tabulations and chi-square tests were performed to determine if the variables of age, gender, hearing status, age at onset, school type, language in school, or parental occupation had a significant effect on education level completed. Similarly, cross-tabulations were calculated to assess the significance of school type, language of instruction, and language in the home of the participants' self assessment on English writing skills. A description of how these variables were determined and categorized follows.

Education Level

In keeping with previous studies which looked at deaf students' transition from school to the workforce (Allen et al., 1989; Schildroth et al., 1991) and an Alberta Survey of the Hearing Impaired (Rodda & Carver, 1983), participants' education level was delineated by their completion or non completion of a high school general or advanced diploma. In some cases, the type of high school program was not indicated but post-secondary education was provided as the highest level of education completed. Therefore, those who indicated postsecondary education were also deemed to have a high school diploma. Participants who indicated completion of an IOP program, a high school Certificate of Achievement or lower were placed in the group "diploma not completed".

Age

To determine if there was any effect of age on the participants' education level, two distinct categories were established. Those whose age was below the mean of 30.4 years constituted one group and those whose age was above the mean comprised the second.

Degree of Hearing Loss and Age at Onset

The relationship between degree of hearing loss, age at onset of hearing loss and the education level and literacy skills has been discussed frequently in the literature as a causal relationship (Allen, 1986; Moores et al, 1987 cited in Carver, 1989a). Carver (1989a) disputed degree of hearing loss and age at onset as causally related to literacy development. Considering the dispute, it was deemed important to examine the effects of both these variables on education level and self assessment of writing skills. Depending on the age at onset, a person is described as being pre-lingually or postlingually deaf (See Chapter I - for a definition of these terms). This study has followed established guidelines in designating pre- or post-lingual deafness (Rodda & Grove, 1987; Moores, 1987;). A hearing loss experienced before birth or up to 2 years of age is considered 'prelingual'. A hearing loss experienced after 2 years of age is considered postlingual. Degree of hearing loss was reported as profound, severe, moderate, or mild (Moores, 1987).

Dominant Type of School Attended

Type of school was divided into 3 broad categories; (a) Regular school without special classes (referred to, on the questionnaire as 'completely mainstreamed'), (b) regular school with special classes (referred to on the questionnaire as, 'self contained classroom in a hearing school for some or all classes'), and (c) School for the Deaf. These designations are also in keeping with the Alberta Survey of the Hearing Impaired (Rodda & Carver, 1983).

One should recall that in order to accurately describe the demographics of the sample, an additional category, named 'combination' was added to responses to this question. This was necessary because of the high frequency of participants who identified two or more types of schools attended. For cross tabulation purposes, the type of school most often attended, between elementary and high school was used to determine type of school attended. It was thereafter referred to as "dominant' school type attended.

Dominant Language of Instruction and Dominant Language in the Home.

A high frequency of combination responses also occurred for language of instruction and, language at home. Therefore, the idea of dominant experience also exists for these variables. Three broad categories were determined and referred to as 'dominant'.

These categories were (1) ASL which refers to a predominance of instruction in American Sign Language or interpretation to American Sign Language, (2) other sign and sign supported systems, which incorporates Signed English, interpretation to Signed English, Total Communication, the Rochester Method, 3) Oral English which referred to spoken English with no sign support. The same categories were used for dominant language in the home. In this case, 'other sign and sign supported systems' also included fingerspelling and home made signs (with or without spoken English).

Parental Occupation

The Occupational System of the U.S. Bureau of the Census (Miller, 1991) was used to classify parent's usual occupation. Specific categories as designated in this document were used for purposes of description. For cross-tabulation comparison, similar occupations were combined to produce 5 categories. Belonging to a specific category implied that the usual occupation of one or more parent fell within the definition of that category. Categories are arranged according to the education level required for that particular occupation. When one parent's occupation fell into a category requiring a higher level of education than did the other, this category was considered the one to which the participant belonged.

Self Assessment of English Writing Skills

A self assessment of English writing skills was used to evaluate English writing ability. Participants were asked to rate their English writing skills by indicating, on a linear scale, where their skills would lie between two polar descriptors. The descriptors were based on those used by Rodda, Bomak and Evans (1991) in an evaluation report of the Deaf Literacy Program at Red River College. At one end of the scale, the descriptor read "the same as an average deaf person who uses English as a second language". At the opposite end, the descriptor read "the same as a hearing high school graduate." The points at which the participants rated their skills were measured (in millimeters) and the numerical mean of all self assessments was calculated. Those who rated their English writing skills below the mean were deemed to consider themselves "unsuccessful" or "non successful" writers. Those who rated their skills above the mean were deemed to consider themselves "successful" writers. All references to "successful" and "unsuccessful" or "non-successful" writers are only related to this measurement.

Section 2 of the Questionnaire

Section 2 corresponds to Part 3 of the deaf adults' questionnaire and Part 2 of the teacher's. This section contains the series of 26 statements which refer to factors or practices which are believed to positively influence writing development. Deaf adults were first asked to respond Yes or No to these statements to indicate whether or not the circumstance described was within the realm of their experience. If yes, they were further required to rate the helpfulness of the statement on a Likert Scale of 1 - 5. Teachers of the deaf were asked to rate their view of the helpfulness of the statement towards the development of English writing skills.

Prior to distribution of the questionnaire, number 1 on the Likert Scale was designated as "Not Helpful" and number 5 designated "Very Helpful". To facilitate description of responses, the intervening numbers were subsequently given the following descriptors:

Rating of 2 = Somewhat Helpful
Rating of 3 = Moderately Helpful
Rating of 4 = Helpful.

Statements were divided into home related and school related influences. For discussion purposes, and to correspond to the discussion of factors in the literature review, these two categories were further subdivided. The school related statements were subdivided into statements that related to; (a) Reading and writing practice, (b) teacher practices - positive, (c) teacher practices - controversial, (d) teacher attitudes, (e) use of technology. The home related category was subdivided as follows; (a) Being read to , (b) writing for communication, (c) use of technology; (d) home attitude towards learning to read and write, (e) personal attitude towards learning to read and write.

As in the case of Section 1, some unanticipated responses occurred. In order to treat these responses consistently, the following general rules were developed and applied: (1) Where a 'no' response was circled as well as a rating number, the response was taken as a 'no'; (2) where only a rating number was circled, the response was taken as a Yes plus that rating; (3) where more than one rating was circled, the lower rating was taken.

The deaf adult responses were treated and discussed in a number of different ways. The responses of "successful" and "non-successful" writers were examined for similarities and differences. A chi-square test of significance was performed for each question to determine if there were significant differences between the two groups. In this way the association of self assessment of writing skills and various helpfulness ratings was assessed. The extent to which the frequencies of responses, for each group, deviated from the expected mean of 3 was examined by chi-square analysis. The ratings of helpfulness were categorized according to those who rated the statement equal to or above the expected mean, those who rated the statement below the mean, and those who responded 'no' to the question. Empty cells existed in 10 of the cross tabulations prohibiting an accurate chi-square test. In 7 of these instances, cells were combined to compare the response frequencies between those equal to or above the mean and those below the mean including 'no' responses. Three more were treated alternatively due to a concentration of responses above the expected mean. In these instances, the chi-square test was done dividing the dependent variable into those whose responses were above the mean and those whose were equal to or below the mean. The degree of positive responses was thereby tested for significance between the groups.

In order to compare the highest and lowest rated statements for the subgroups of deaf adults, the statement responses were rank ordered. This was done by calculating the mean of all 'yes' statements and rank ordering individual statements from highest to lowest. Further, the categories of statements were rank ordered. The was done by combining the statements in each category and determining the mean of 'yes' responses for that category. They were then rank ordered from highest to lowest mean.

For Teachers (Group 2), the frequencies and distribution of ratings were examined for agreement or disagreement between teachers. Statements were ranked ordered per individual statement and categories of statements. Cross-tabulations and chi-square analyses were done to examine the extent to which differential ratings may be a product of years of teaching experience, educational setting, grades taught, and hearing status.

Section 3 of the Questionnaire

Section 3 comprised open ended questions on both questionnaires. Responses to each question were reviewed individually and items presented were tallied. Combining the tallies allowed for identification of themes common to all respondents. These themes were then presented in terms of most frequent mention. Emergent themes were compared between the groups. As well the extent to which themes in the qualitative data reinforced the quantitative information was examined.

CHAPTER IV RESULTS

Introduction

This chapter presents findings from the questionnaires and results of data analysis. It is divided into two broad sections which correspond to the two groups of participants, first the deaf adults and second the teachers of the deaf. Findings are then presented with reference to the different sections of the questionnaires. Demographic information is initially presented for each group. Following demographic information, the deaf adult group is examined for academic achievement, and for the possible mediating influences of age, gender, type of school, language in school, and parental occupation on achievement. This group is also divided, according to self assessment of English writing skills, into those who consider themselves 'successful' and those who consider themselves 'non-successful' writers. Demographic factors are then discussed in terms of their possible contribution to self assessment of writing skills.

The ratings of school and home related influences experienced by these deaf adults are also examined. Results of chi-square analysis is presented for each statement . Mean ratings per group are also examined and discussed. In each case, individual statements and categories of statements are rank ordered and compared for similarities.

The mean ratings of statements are also tabulated and presented for the group of teachers of the deaf. Differential ratings are discussed in terms of school setting, grade taught, years of experience, and hearing status.

Responses to open ended questions are examined and presented in terms of recurring themes. A brief case study of participants with one or more deaf parent is also included.

Group 1 (Deaf Adults).

Summary of Demographic Information.

Age and Gender

A total of 40 completed questionnaires were received from deaf adult respondents. These respondents ranged in age from 20 to 54 years with a mean age of 30.4 years. Twenty five of these participants were female, and 15 were male.

Degree of Hearing Loss

The degree of hearing loss ranged from moderate to profound. Two of the participants identified themselves as falling into two categories of hearing loss, presumably referring to a range. One identified as having a 'moderate' and 'severe' and the other a 'severe' and 'profound'. One respondent checked the response option 'moderate' also noted that his/her hearing loss ranged from moderate to profound, and also made the notification "Id [identify] as hard of Hearing".

Age at Onset

Age at onset of hearing loss was also asked of respondents. Twenty three indicated that they were born deaf. Fifteen experienced their hearing loss after birth. Of those who stated they were not born deaf, 7 experienced their deafness at or before the age of 2 years. This added to the 23 respondents who were born deaf brought the total of prelingually deaf (Rodda & Grove, 1987; Moores, 1987) to 30, or 75%. Of those remaining, age at onset of hearing loss occurred between 3 and 13 years of age. Two declined to answer the question. One of these 2 noted 'Hard of Hearing'.

Education

Table 1 provides a summary of the education level completed by Group 1 respondents, while Tables 2 and 3 detail the types of schools attended and the language of instruction in these schools.

Table 1

Highest Level of Education Completed for Group 1 Respondents

Education Level Completed	Responses
Elementary	1
Junior High	8
High School:	
IOP/Certificate of Achievement	4
General Diploma	5
Advanced Diploma	4
Postsecondary:	
College Diploma/Certificate	2
Trade/Vocational Certificate /Apprenticeship	3
University Degree/Diploma	6
University Masters Degree	5
No Response	2

Level of Education and Type of school.

Table 2

Number of Responses per Type of School and Lvel of Education

Type of School	Nunber of Responses Levl of Education			
	Elem	Jr. Iigh	Sr. High	Postsecondary
Completely Mainstreamed	8	0	13	11
Self Contained Classroom (some classes).	6	5	5	1
Self Contained Classroom (all classes).	5	2	1	1
School for the Deaf	10	6	12	3
Combination	9	5	4	2
Not Applicable	--	-	3	15
No Response	2	[illegible]	2	5
Other	--	-	--	2
Total	40	0	40	40

It should be noted here that the number oparticipants who attended postsecondary institutions does not correspond tche number of participants who have completed their postsecondary education. This ishe case because those who have attended postsecondary institutions will not neceaarily have completed their education at these institutions, and a number of participants we attending post secondary institutions to upgrade their secondary education. In the twoases where 'other' was designated as the type of schooling for postsecondary educatio, no additional explanatory information was offered.

Level of Education and Language of Instruction.

Table 3 details the language of instruction encountered during each of the four designated levels of education. One respondent in each level of school designated 'other' as the language of instruction. In the categories of elementary, junior high, and high school 'other' was further clarified as meaning Hong Kong Sign Language. For the postsecondary category, the response ' other' was described as a combination of ASL and lipreading.

Table 3.

Language of Instruction Experienced per Level of Education

Language of Instruction	Number of Responses Level of Education			
	Elem.	Jr. High	Sr. High	Post Sec.
American Sign Language (ASL)	4	9	7	7
Signed English (SE)	1	1	1	--
Total Communication	4	6	3	3
Oral English	14	12	11	5
Oral English (interpreted to ASL)	--	--	1	1
Oral English (interpreted to SE)[a]	1	--	--	1
Rochester Method[b]	1	1	--	--
Combination	12	8	10	4
Other	1	1	1	1
No Response/Not Applicable	2	2	2/4	2/16

[a] SE stands for Signed English [b]Rochester Method is a method of communication which uses speech and fingerspelling but no signs.

It is important to note the frequency of responses that fall into the category named 'combination' for both type of schooling and language of instruction. Many of the respondents did not experience consistency in either of these areas. Their school experiences were, for the most part, characterized by changes between elementary and high school in both type of schooling and language of instruction. These findings are similar to those of Gregory, Bishop, and Sheldon (1995). In their study 54% of subjects reported movement between different school types and likely, as a result changes in the language of instruction.

Writing development in school.

Participants were asked to indicate during which school years they learned most about expressing themselves clearly in English writing. It was anticipated that one specific school level would emerge as an optimum time of learning in the view of these deaf adults. Although the largest number of participants (11) did designate junior high school as their time of greatest learning in English, this number was not substantially higher than the 9 who responded with a combination of 2 or more categories or the 7 who noted high school as their time of greatest writing development. Other respondents designated their time of greatest learning to write in English as follows: elementary school, 5; postsecondary school, 4; other, 3; and no response, 1. Non categorized responses included the following comments: 'I do not remember' ; 'little in College'; and 'none!'.

Writing Habits

Maxwell's (1985) research detailing the many purposes for which deaf individuals use writing was substantiated in this study. In terms of frequency of writing, the majority 37 out of 40 (92.5%) said that they use writing now. Twenty five (67.5%) of these indicated that they write daily. Others (5 and 7 respectively) noted that they write either once a week or twice a week. The purposes of the writing were varied. Thirty two (80%)

participants responded that they write for two or more of the following reasons: work, pleasure, school, clubs or organizations, publications, letters, shopping lists, and family communication. Only 3 (13.5%) noted a single purpose (school) for their writing activity.

Familial Factors

With regards to the incidence of deafness in the family, two of the 40 respondents reported having deaf parents. One reported both a deaf mother and father; the other had a deaf mother only. The proportion of participants who had deaf parents is 5%. This representation is slightly lower than statistics that show 10% of deaf children are born to deaf parents (Rodda & Grove, 1987) and in line with Moores (1987) who stated that only 3% of deaf children have deaf parents.

The number of deaf siblings was similarly low. There were 11 deaf siblings (4 brothers and 7 sisters) of a total of 125 siblings (57 brothers and 68 sisters) from the 39 cases tallied (1 omitted). Two respondents were only children. Dolby (1990) conducted a similar study that investigated successful deaf readers. Dolby (personal contact, 1993) noted that a high percentage of these successful readers were the only child in the family. Although, in the present study, the two 'only' children rated themselves as "successful writers", there was insufficient representation to warrant further investigation.

Parental occupation

Parent's occupations were grouped in accordance with the Occupational System of the U.S. Bureau of the Census (Miller, 1991). With the exception of 2, whose parents' occupations were either unknown or unclear, participants were placed into one of 9 categories. Table 4 provides a summary of the parent's usual occupation and the number of participants per category. More detailed analysis of parent occupation as it relates to education level completed and self rating of English writing skills occurs later in this chapter.

Table 4.

Number of Responses per Parent Usual Occupation.

Occupation Category	Response
Professional/Technical and Kindred Workers	11
Managers/Administrators (except farm)	8
Sales Work	2
Clerical and Kindred Workers	3
Craftsmen and Kindred Workers	1
Machine Operatives (except transport)	4
Laborers (except farm)	5
Farmers and Farm Managers	2
Cleaning Service	2
Unknown or No Answer	2

Effects on Education Level.

Several tables were constructed to determine if age, hearing status, age at onset, school type and language in school, as well as parental occupation had an effect on the education level completed by the deaf adult participants. These tables are located in Appendix H (tables H-1 through H-7) and a summary of findings is presented in this section.

Summary of Effects on Education Level.

A chi-square analysis was performed to examine if statistically significant differences exist between the variables of age, gender, degree of hearing loss, age at onset, dominant school type, dominant language at home and educational achievement.

No statistical significance existed for any of these variables. There were however some interesting observations.

Although males were more likely to complete a high school diploma (73% as opposed to 61% or females). a higher proportion of these females (71%) went on to complete postsecondary education than did males (54%).

Type of schooling was characterized by a high frequency of responses indicating movement from one type of school to another. Sixty two percent of respondents reported such movement. As stated, these statistics are very similar to Gregory, Bishop and Sheldon (1995) who noted the same kind of movement for 54% of their subjects. Once categorized into dominant school type, it became apparent that a higher number of those who attended primarily a regular school without special classes graduated with a high school diploma (62%). However, for those who attended a School for the Deaf primarily, there was a higher frequency of completion of postsecondary education.

Like school type, language of instruction was characterized by movement from one to another, Fifty three percent experienced more than one language of instruction, of these 66% attained a high school diploma, while 75% of those who received a consistent language attained a diploma. Consistent language input is said to contribute to the development of literacy skills (Webster, 1986) which is likely related to academic achievement. If this is indeed the case, then 53% of participants were at a disadvantage due to changes in linguistic input at school.

Many of the participants also indicated a combination of different methods of communication at home. A smooth transition from home-based to school-based discourse (facilitated by complementary language systems) (Maxwell & Falick, 1992), and prior knowledge of language (Quigley & Kretschmer, 1982) are highly influential factors in writing development . For those individuals who are subject to changing language at home as well as at school, literacy development will be more of a challenge.

Regarding parental occupation, there is generally a higher incidence of achievement of high school diploma where the educational level required for the parental occupation is higher. Whilst not significant, this trend is in line with an expected relationship between these two variables.

Self Assessment of English Writing Skills

Participant's were asked to rate their English writing skills on a range from "the same as an average deaf person who uses English as a second language", and "the same as a hearing high school graduate". The group was divided into "successful" or "non-successful" depending on whether the response was above or below the mean on this scale. There were 19 in the successful group and 20 in the non-successful. A series of cross-tabulations and chi-square tests were done to determine if there were significant relationships between high school completion, dominant school type, language of instruction, and language at home and participant's self assessment of English writing skills. Tables are located in Appendix (tables I-1 through I-4) and the findings are summarized in the following section.

Summary of Effects on Self Assessment of English Writing Skills.

There was a significant interaction ($p <. 01$) between high school completion and self assessment of writing skills (see Appendix I-1). Of the 24 who completed high school, 17 rated themselves as successful writers. Thirteen did not complete high school; 11 of these evaluated their writing skills as non-successful. While it is reasonable to expect high school graduates to consider their writing skills superior, it is surprising that so many of those who did not complete high school have such a derogatory attitude towards their own ability.

Statistical significance ($p < .05$) existed in the relationship between dominant school type and self assessment of writing skills (see Appendix I-2). The greatest deviation from expected frequencies was for those who attended primarily a school for the deaf. Twelve of 16 who attended, rated themselves as unsuccessful writers.

Interestingly, 7 of those 12 also completed a high school diploma. If completion of a high school diploma is indicative of better writing skills, then those who attended predominantly a school for the deaf were more unsure about their writing skills. None of those who attended regular schools (with or without special classes), and evaluated themselves as unsuccessful writers, completed high school.

The effect of dominant language of instruction on self assessment of writing skill (see appendix I-3) was also statistically significant ($p < .05$). Greatest deviance from expected frequencies occurred for those who experienced primarily ASL. Eighty percent (8 of 10) evaluated themselves as unsuccessful writers and 4 of this 8 completed a high school diploma. Similarly of the 12 who experienced predominantly 'other sign systems', 4 evaluated themselves as unsuccessful, yet 3 of these completed a high school diploma. Despite research that documented better academic performance for individuals who experience some form of sign language in school (Meadow, 1967; Greenberg, 1980; Brasel & Quigley, 1975, cited in Rodda & Grove, 1987), these individuals appear to remain uncertain about their abilities as writers.

Dominant language in the home did not have a significant effect on self assessment of writing skills (appendix I-4). Once again, however, there are some interesting trends. In this case, all of those in the ASL and spoken English groups, who rated themselves as successful writers, also completed a high school diploma. For those who experienced 'other sign systems', 10 rated themselves as unsuccessful writers, yet 7 of these attained a diploma. The homes where 'other sign systems' were predominant were also the homes more likely to use a combination of communication methods. Inconsistencies of language input at home could create difficulties for literacy development and uncertainty about writing capabilities.

Responses According to Self Assessment of Successful vs. Non-successful Writing Ability.

To examine the extent to which the experiences and opinions of those who were successful writers differed from those who considered themselves unsuccessful writers, chi - square tests were performed for each of the statements. This section contains results of these tests and comparative rank ordering of individual statements and categories of statements. Subcategories of school related experiences are presented first and are then followed by home related.

School Related Experiences.

Reading and writing practice in school.

The importance of reading and practicing writing is well documented in the literature. The extent to which this holds true for the participants in this study was explored. Tables 5a and 5b provide the frequency of responses for successful and non-successful writers for each statement in this part of the questionnaire. The letter designate for each statement is provided as well as key words from the statement . Frequencies are generally reported in terms of responses equal to or above the expected mean of 3, below the expected mean, and 'no' responses. However, in the cases of statements K, L, and N, chi-square analysis was prohibited due to a concentration of responses above the mean and empty cells below the mean. For these statements, responses were re-categorized into those above the expected mean and those equal to or below the expected mean. These are the only cases where this division occurs therefore, results are reported in a separate table (5a).

Table 5a

Reading and writing practice in school per successful and non-successful writers.

Statement	> Mean	=< Mean	NO	Ave. Rate[a]
	Response Frequencies			
K: Teachers read				
Successful	10 *(17)*[b]	9 *(2)*[c]	--*(0)*[d]	3.7
Non-successful	11 *(12)*[b]	9 *(2)*[c]	-- *(2)*[d]	3.5
**L: Individual reading				
Successful	18 *(19)*[b]	1 *(0)*[c]	-- *(0)*[d]	4.4
Non-successful	8 *(14)*[b]	12 *(5)*[c]	-- *(1)*[d]	3.3
*N: Practice writing				
Successful	12 *(18)*[b]	7 *(0)*[c]	-- *(1)* [d]	4.0
Non-successful	5 *(13)*[b]	14 *(3)*[c]	-- *(3)*[d]	3.2

Notes: *chi-square significance $p < .05$, **chi-square significance $p < .01$, [a]Average rating of 'yes' responses [b]designates frequency =>mean, [c]designates frequency <mean, [d]designates frequency of 'no' responses.

No statistical significance was found between writing assessment and statement K ("my teachers read to me in school"). It is important to note, however, that in the original distribution, all successful writers experienced this and only 2 rated it below the expected mean. Of these two, one participant rated the practice as not helpful and added that although teacher(s) did read, he/she did not understand what was being said. For the non-successful writers 18 of 20 experienced being read to at school. Twelve of these rated it's helpfulness equal to or greater than the mean.

Statistically significant differences existed between successful and non-successful writers for both statements L ("I read by myself at school") and N ("I had time to practice writing in school"). For statement L, all successful writers engaged in this activity and considered it primarily 'helpful' or 'very helpful'. For these writers, reading alone was considered one (of 4) of the most valuable experiences. This was not the case for unsuccessful writers whose responses, although they tended towards being above mean, were more diverse. Their overall average rating was also considerably lower at 3.3 versus 4.4 for the successful writers.

For statement N, all but one of the successful writers experienced writing practice in school. The majority rated it 4 or above. For the non-successful group, only 5 gave writing practice such a rating. Average ratings reflect this difference. Choosing topics for writing (statement P) was similarly experienced and similarly rated by both groups. Frequencies are shown in table 5b.

Table 5b

Choosing writing topics in school per successful and non-successful writers.

	Response Frequencies			
Statement	=> Mean	< Mean	NO	Ave. Rate[a]
P: Chose topics				
Successful	11	3	4	3.6
Non-successful	11	3	5	3.1

Teacher practices - positive.

This section examines teacher practices deemed to positively contribute to writing development. These practices correspond to those discussed in Chapter II and are also those advocated in the process approach to teaching writing. Table 6 provides the results.

Table 6

Rating of teacher practices (positive) per successful and non-successful writers.

	Response Frequencies			
Statement	=> Mean	< Mean	NO	Ave. Rate[a]
I: Drew pictures				
Successful	10	6	1	3.1
Non-successful	16	2	1	3.8
J: Expressed feelings				
Successful	11	3	4	2.6
Non-successful	12	4	4	2.8
O: Discussed writing				
Successful	16	2	1	4.1
Non-successful	16	4	0	3.5
R: Editing shown				
Successful	17	0 *(2)*[b]	2	3.9
Non-successful	15	3 *(5)*[b]	2	3.7
Y: Examples shown				
Successful	13	0 *(6)*[b]	6	4.4
Non-successful	13	4 *(7)*[b]	3	3.5

Notes:[a] Average rating of 'yes' responses. [b] designates the combined frequency of responses <Mean and 'no' responses used for chi-square analysis.

There were no statistically significant differences between groups for any of the statements related to positive teacher practices. They were characterized more by similarities among response frequencies than differences. Exceptions to this occurred for statement R ("My teachers showed me how to edit my writing to make it clearer") and Y ("My teachers showed me different kinds of writing"). In both these instances, all of those in the successful group who experienced the practices, rated their helpfulness above average. They also viewed exposure to different kinds of writing as considerably more helpful than the non-successful group. The average rating was 4.4 as opposed to 3.3. This was among those statements ranked most helpful for the successful group. Teachers discussing writing with the student (statement O) was given a higher helpfulness rating by the successful writers upholding the view that writing conferences are beneficial to writing development (Schirmer, 1994; Graves, 1983). It is also interesting to note the low rating for statement J ("I was encouraged to express my feelings in my writing") for both groups. When rank ordered, this practice was lowest for both groups. Statements I and J were rated slightly higher for the non-successful group than the successful. These are 2 of only 4 instances where this occurs.

Teacher practices - controversial.

An emphasis on grammar instruction and criticism of the written productions of deaf students are situations said to have existed which are detrimental to the development of writing skills (Carver, 1989a; Finn 1995; Maxwell & Falick, 1992; Webster, 1986). The extent to which participants experienced these practices, and their rating of the relative helpfulness of each was explored through statements Q ("My teachers corrected my writing for me"), S ("My writing skills were criticized (negatively) in school") and T ("My teachers focused on correcting the grammar in my writing. They were labeled 'controversial' teacher practices.

Table 7 provides the response frequencies for successful and non-successful writers. Keywords from each statement are also included in the table. As before, responses are divided into those equal to or above the mean of 3, those below the mean of 3, and responses in the 'no' category. Average response ratings per group are also provided.

Table 7.

Rating of teacher practices (controversial) per successful and non-successful writers.

	Response Frequencies			
Statement	=> Mean	< Mean	NO	Ave. Rate[a]
Q: Writing corrected				
Successful	17	2	0	3.9
Non-successful	14	3 *(6)*[b]	3	3.8
S: Writing criticized				
Successful	6	5	8	3.0
Non-successful	8	2	10	2.8
T: Focus on grammar				
Successful	16	2	1	3.5
Non-successful	14	4	2	3.7

Notes: [a]Average rating of 'yes' responses, [b]designates the combined responses of <mean and 'no' responses for chi-square analysis.

Once again, there were no statistically significant differences between groups for any statements relating to controversial teacher practices. Fewer numbers of the non-successful writing group had teachers correct their writing for them (statement Q). Seventeen of 20 as opposed to 19/19 for the successful group. Teachers correcting writing for students (statement Q) and a focus on grammar in corrections (statement T) were experienced more frequently by both groups and deemed more helpful than having writing criticized (statement S) . However, negative criticism was experienced 50% of the time, for the "non-successful" group, and rated as 2.8. For the "successful" group, it was experienced 58% of the time and rated 3.0. The possible effect of age on the responses to statement S were examined by comparing those whose age was above or equal to the mean of 30 years, to those whose age was below. This was done to determine if there were different experiences for those attending regular school at different times. Although a slightly greater number of those below the mean age responded that they did not experience negative criticism, there was no significant difference between the two groups. Ratings in the category of controversial teacher practices are higher than might be expected. However, when rank ordered, negative criticism was deemed least and second least helpful. A focus on grammatical corrections was ranked tenth for the successful writers, and having writing corrected by teachers was sixth. Both were ranked higher for the non-successful writers.

Teacher attitudes.

Teacher attitudes are said to be clearly influential in the writing development of deaf children . It is imperative for the development of writing and confidence in writing for teachers to project a sense of value and importance in their student's writing (Brannon and Livingston, 1986; Graves, 1983). It is also suggested that teachers expectations of children's writing influence the quality of children's writing (Lindfors, 1987). Statements U ("My teacher(s) had high expectations of my writing"), V("My teacher(s) helped me to feel like I was a good writer") and W ("My teacher(s) made me feel that what I wrote was important to them") reflect these issues.

Chi-square analysis revealed that the variables self assessment of writing skills and rating of teacher attitudes operated independently. All statements were rated of similar importance to both groups. There were comparable numbers of 'yes' responses and of ratings equal to or above the mean for all statements. Some differences appeared with regards to statement 'V' "My teacher(s) helped me to feel like I was good writer". There were more 'no' responses in the successful group, yet those who did experience this rated it highly, and considerably higher overall than the non-successful group. Table 8 provides details of responses to these statements.

Table 8.

Rating of teacher attitudes per successful and non-successful writers.

	Response Frequencies			
Statement	=> Mean	< Mean	NO	Ave. Rate[a]
U: High expectations				
Successful	13	2	3	3.7
Non-successful	15	3	2	3.5
V: Felt like good writer				
Successful	14	*0(5)*[b]	5	4.2
Non-successful	13	*5(7)*[b]	2	3.2
W: Writing important				
Successful	12	3	4	3.7
Non-successful	13	4	3	3.5

Notes: [a]Average rating of 'yes' responses,[b]designates the combined number of <mean and ' no' responses used for chi-square analysis.

Technology use in school.

The use of technology as a tool to promote literacy development in deaf students is a relatively new but promising phenomenon as evidenced in results of the ENFI projects in the United States (Miller, 1988; Payton & Horowitz, 1988; Hunt, 1988; Payton, 1988, Carver, 1989b). Table 9 contains specifics of responses per group.

Table 9.

Rating of technology use in school per successful and non-successful writers.

Statement	=> Mean	< Mean	NO	Ave. Rate[a]
	Response Frequencies			
M: CC videos				
Successful	6	0 *(13)*[b]	13	3.8
Non-successful	8	1*(11)*[b]	10	3.7
*Z: Computer use				
Successful	5	0*(14)*[b]	14	4.4
Non-successful	12	1 *(7)*[b]	6	4.4

Notes:*chi-square significance $p < .05$, [a]Average rating of 'yes' responses,[b]designates the combined number of <mean and ' no' responses used for chi-square analysis.

Comparable numbers of each group experienced the use of closed captioned videos at school (statement M), and considered it similarly helpful with average ratings of 3.7 and 3.8. Response frequencies for statement Z ("I used a computer in school to improve my writing") were significantly different between the two groups. The significance however, is likely due to increased exposure to computers in the non-successful group. Thirteen of this group used computers, as opposed to only 5 from the successful group. Twelve of the 13 in the non-successful group, and all 5 of those in the successful group, rated computer use equal to or above the mean. Similar ratings but considerable differences in exposure suggests that the significance found here may be more one of opportunity than view of helpfulness. To see if exposure to computer use in school was a product of age, and therefore the significance more an effect of age than of judgment of value, a chi square test was done to assess the interaction of age and writing success. Significant interaction was found at $p < .10$ but not at $p < .05$. A larger sample may reveal more of a relationship. In this study, however, the relative value of computer use to promote writing development is evident. When rank ordered, statement Z was one of the highest for the successful group and second highest for the non-successful.

Home Related Experiences

The same procedures as those used to assess the differences between successful and non-successful writers for school related statements, were followed for home related. Findings are presented with reference to the subcategories outlined in Chapter III.

Being read to and using notes for communication.

Being read to at home and growing up in a print rich environment have been identified as factors that contribute positively to the development of writing skills (Carver, 1989a, 1989b; Fox & Siedow, 1992; Graves, 1993; Krashen, 1984; Schirmer, 1994). Maxwell (1985) commented on the benefits of writing notes for communication at home. Table 10 gives the results related to these questions.

Although no significant differences were found between the 2 groups, some differences placed on the value of these experiences are apparent. There were numerous 'no' responses to statements A, B, and C, (being read to by parents, other adults, and siblings). Once tallied there were only 4 individuals who were not read to by any of the parties mentioned. These 4 were all from the successful group. It is interesting that siblings reading is rated higher than parents. The role that siblings play in promoting literacy skills of the deaf family member, is an area worthy of further investigation

Table 10

Rating of being read to and writing at home per successful and non-successful writers.

	Response Frequencies			
Statement	=> Mean	< Mean	NO	Ave. Rate[a]
A: Parents read				
Successful	13	2	4	4.0
Non-successful	8	7	5	2.9
B: Other adults read				
Successful	8	0 *(11)*[b]	11	4.0
Non-successful	9	4 *(11)*[b]	7	2.8
C: Siblings read				
Successful	8	1	10	4.1
Non-successful	9	4	7	3.2
D: Books in the home				
Successful	15	2	1	4.0
Non-successful	11	5	3	3.9
E: Notes used				
Successful	11	1	7	3.9
Non-successful	8	5	7	3.0

Notes:[a] Average rating of 'yes' responses. [b] designates the combined frequency of responses <Mean and 'no' responses used for chi-square analysis.

With few exceptions, greatest differences in mean ratings between the 2 groups, existed in those statements which related to home experiences. In each case of being read to at home, those who considered themselves successful writers placed considerably more value on this than those who considered themselves 'non-successful' as is evidenced by the disparity in average ratings for statements A, B and C.

Notes used for communication.

Only one statement referred to notes used for communication in the home (E). Fourteen respondents stated that notes were not used for communication in the home. Writing notes at home was seen as somewhat more helpful to the successful group with an average rating of 3.9 compared to 3.0 for the non-successful group. Maxwell (1985) suggested that writing notes was more common in homes of deaf parents. Similarities to these findings are difficult to make, as only 2 of the participants had deaf parents. Of these, one family used notes at home, and one did not.

Technology use at home.

Use of technology at home is referred to in statements F ("I watched closed captioned TV/movies at home") , and G ("I used a TTY when I was growing up"). Table 11 provides the response frequencies and average rating per group. There were no significant differences found between the groups. There was also little difference regarding viewing of closed captioned television/movies both in exposure (63% of the successful group experienced this, and 65% of the non-successful), and average rating. According to rank ordering, statement F was considered the most helpful experience for the non-successful group and fourth for the successful.

There was however, a substantial difference in the average rating regarding the use of a TTY. Successful writers rated it 4.2 on average, and ranked it third overall. Non-successful writers, despite the fact that more had the opportunity to use a TTY, rated its use as 3.0, and ranked it eleventh overall. This disparity is similar to the disparity in average rating generally found for home related statements.

Table 11

Frequencies and rating of technology use at home per successful and non-successful writers.

	Response Frequencies			
Statement	=> Mean	< Mean	NO	Ave. Rate[a]
F: CC TV/movies				
Successful	13	0 *(6)*[b]	6	4.5
Non-successful	12	2 *(8)*[b]	6	4.1
G: TTY use				
Successful	7	1	11	4.2
Non-successful	8	4	8	3.0

Notes:[a] Average rating of 'yes' responses. [b] designates the combined frequency of responses <Mean and 'no' responses used for chi-square analysis.

Home attitudes towards reading and writing .

Reference to a positive home attitude occurred in statement H ("reading and writing were considered important in my home"). A home environment where the value of reading and writing is promoted is said to positively influence writing ability (Krashen, 1984). This idea was certainly echoed by successful writers. A positive home attitude was deemed the second most important influence in the development of English writing skills with an average response rating of 4.3. Those who considered themselves non-successful writers placed a lower value on a positive home attitude. The average rating was 3.5 and occupied sixth position when rank ordered. In placing such a high value on the attitude in the home, the group of successful writers concurred with sentiments expressed by a number of the teachers that a positive attitude in the home is of primary importance in literacy development. Table 12 contains results to statements which referred to home attitudes (H), and personal attitudes (X) towards reading and writing.

Table 12

Frequencies and rating of home and personal attitudes per successful and non-successful writers.

	Response Frequencies			
Statement	=> Mean	< Mean	NO	Ave. Rate[a]
H:Positive home attitude				
Successful	16	1	2	4.3
Non-successful	14	3	3	3.5
X: Personal attitude				
Successful	19 *(16)*[b]	0 *(3)*[c]	0	4.4
Non-successful	16 *(15)*[b]	3 *(5)*[c]	1	4.0

Notes:[a] Average rating of 'yes' responses. [b] designates the frequency of responses use for chi -square >Mean and a combination of =< mean and 'no' responses

Personal attitude towards learning to write.

All of those participants who considered themselves successful writers rated statement X ("I felt it was important to read and write in English) equal to or above the expected mean of 3. Empty cells in other response categories precluded a chi-square test with this distribution. The test was performed using frequencies of ratings above the mean and those equal to or below the mean. This redistribution changed the numbers only slightly and did not reveal a significant effect of personal attitude on self assessment of writing skill. The close average rating between the two groups also suggests that a positive personal attitude was deemed important to both groups. This is one of only 2 statements ranked in the top three for both groups.

Rank Ordering of Statements per "Successful" versus "non-successful" writers.

Rank ordering was done in order to compare the relative helpfulness rating provided for individual statements and categories of statements between the successful and non-successful writers.

The rank order of individual statements is provided in Appendix J, table 1. There is little in common between the two groups. The similarities that do exist occur within the top 3 and bottom 2 positions. The successful deaf adult writers judged 4 experiences to be most helpful in developing their writing skills. These were: (a) reading by themselves in school, (b) feeling that it was important to learn to write in English, (c) being shown examples of different kinds of writing, and (d) using a computer in school. Of these, two appeared in the top 3 positions for the non-successful writers. They were: using a computer in school, and feeling it was important to learn to write in English which were ranked second and third respectively. Non successful writers placed reading by themselves in school as eighth and being shown different kinds of writing as sixth out of a possible 13 places. The statement ranked second most helpful for the successful writers was "reading and writing were considered important in my home." This was also ranked sixth for the non-successful. Third for the successful writers were being made to feel like a good writer, and using a TTY at home. These were ranked ninth and eleventh respectively by non-successful writers.

The experience ranked least helpful by both groups was being encouraged to express feelings in writing. Also least helpful for the non-successful group, and second least helpful for the successful group, was having writing criticized. It is surprising that non-successful writers judged being read to by their parents as the second least helpful experience overall. This was ranked fifth by successful writers.

A comparison of home related statements revealed an interesting trend. For successful writers, all home related experiences occupied the top six ranked positions. For non-successful writers, with the exception of watching closed captioned television or videos, all home related experiences were ranked in the bottom seven positions.

Table 13 shows a comparison of rank ordered categories of statements.

Table 13.

Rank Ordering of Statement Categories per successful vs. non-successful writing ability.

	Writing Skills	
Rank	Successful	Non-Successful
1	Attitude - Personal	Attitude - Personal Technology Use - School
2	Attitude - Home	Technology Use - Home
3	Technology Use - Home Technology Use - School	Attitude - Home
4	Being Read to - Home Books in the Home	Teacher Practices Positive Teacher Attitudes Teacher Practices - Controversial
5	Notes at Home	Reading and Writing Practice - School
6	Teacher Attitude	Notes at Home
7	Teacher Practices - Positive	Being Read to- Home
8	Reading and Writing Practice - School	
9	Teacher Practices - Controversial	

Greater agreement was apparent in the most helpful experiences when rank ordering of categories was compared. The four categories, ranked as the 3 most helpful were the same for both groups, although in different order. These are personal attitude, home attitude, technology use at home, and technology use at school. Personal Attitude is ranked number one for both groups.

For the group who considered themselves successful writers, there was a clearer delineation between the value placed on home related and school related influences. Home related experiences were deemed more helpful than school related, with one exception. The use of technology in the school was ranked third overall and amongst those home related statements judged to be most helpful. The 'non-successful' writers ranked all school related statements as more influential than using notes for communication and being read to at home. Even those teacher practices considered controversial were ranked higher than these two categories.

Responses to Open Ended Questions.

Responses are reported according to the 4 questions asked of deaf adults.

Question 1: "Are there any other experiences that helped you to learn to write in English?

An interesting dichotomy occurred between those deaf adults who considered themselves successful writers and those who did not. For the successful writers, reading (by themselves) and writing, by way of letters to family members, and for purposes of communication were the most frequently mentioned experiences. Reading by oneself was not mentioned by any participant in the non-successful writer's group. Writing practice was mentioned only twice.

The most frequent response for non-successful writers were school related experiences. In 8 cases, these participants listed either school programs or activities, or specific school personnel as most helpful. Successful writers detailed school related personnel or activities on 5 occasions.

The importance of family influences was mentioned 4 times by the successful group and not mentioned by those who considered themselves non-successful writers. Use of technology was, however, mentioned more frequently (3 times) by the non-successful group. Friends as helpful influences were detailed twice by the non-successful group and once by the successful. The use of grammar books as helpful was offered by one individual in the non-successful group.

It is interesting that those who considered themselves successful writers appeared to attribute their writing prowess primarily to their own efforts. These efforts were mentioned specifically as personal reading, and writing, for many purposes. It appeared that they saw their success in writing skills primarily as a result of internal motivation and personal pursuits, and secondarily to external sources. This was apparently not the case for those who consider themselves non-successful writers. They attributed external influences, primarily school related, as most influential and made little mention of independent efforts as contributing to their writing abilities.

Question 2: Who was most helpful to you in learning to write in English? (e.g. mother, father, teachers, friends, professors, employers -- deaf/hearing?)

Greater agreement occurred between successful and non-successful writers for question 2. Teachers or school related personnel were mentioned most frequently by both groups. They were specified as most helpful 10 times by successful writers and 14 by the non-successful group. They were, however, often mentioned in conjunction with other parties including family and/or friends, and in one case, equally as helpful as employers.

Family members was the second most frequent response for both groups. Once again, they were rarely mentioned alone but in conjunction with teachers and friends. In only 4 instances (for successful writers) family members were mentioned as the singular most helpful influence. Friends were considered third most helpful but were specified considerably fewer times for both groups.

One participant (successful writer) attributed the greatest influence in writing development to, "myself as an avid reader." It is curious that this response did not occur more frequently considering the tone of responses to question 1. It is possible that the theme of personal development would have emerged more clearly if the wording of question 2 had not provided other significant persons as suggested responses.

Question 3: How were these people helpful?

Responses to question 3 were more diverse. Some common themes did emerge. For successful writers, being provided with opportunities to write (in school, at home and for communication) was the most frequent answer. For the group who considered themselves non-successful, receiving help with grammar was most frequently mentioned, with being encouraged to write being a close second. Perhaps the difference between groups points a difference in perception of the purpose of writing. It may be that those in the successful group see writing more of a means of communicating a message and the non-successful group see it as more of a school related exercise only where the production of grammatically correct work is most important. It is interesting that being encouraged to read was mentioned only twice by successful writers, and less surprising that it was not mentioned at all by the non-successful writers.

Question 4: What suggestions/advice do you have for teachers of the deaf to help deaf children learn to write well in English?

Advice most frequently offered by both groups was to provide opportunities to practice writing, followed closely by encouraging reading. It is noteworthy that, even though non-successful writers did not mention engaging in reading practice as an experience for them, and writing practice was mentioned only once, they do offer these as a suggestion for teaching deaf students.

Effective communication between teacher and students was the second and third most frequently offered suggestion. The form of communication, however, was not always agreed upon and suggestions from deaf adults reflect the diverse views held by professionals in the field. The group of non-successful writers mentioned twice that deaf teachers should teach deaf students using ASL. The importance of teachers knowing both ASL and English was mentioned 3 times. One of these participants however, suggested that ASL should be used only outside of the classroom, and English in class. One additional person suggested that spoken English should be taught. The importance of knowing and communicating in sign language was mentioned 4 times by the group of successful writers. In two instances ASL was specified, in two instances the terminology "sign language" was used (presumed to mean ASL). One individual suggested that teaching the difference between sign language and English would be beneficial, and another suggested that the use of ASL for communication should be limited. Lastly with reference to communication, one individual suggested that FM systems should be used in school, presumably supporting exposure to oral English.

Group 2 (Teachers of the Deaf)

Summary of Demographic Information.

Twenty six teachers of the Deaf and hard of hearing responded to the questionnaire. Of these, 24 were involved in teaching English, 1 taught Math and ASL, and 1 more was a school administrator. Grade levels taught ranged from pre-school to postsecondary with some of the teachers involved with more than one level of schooling. Because of this, the level of school taught was determined according to dominance. That is, the level where the teacher indicated the highest number of courses or grades was deemed to be the school level taught. Two were pre-school teachers, 12 taught primarily at the elementary level, 2 primarily at the junior high level, 3 at senior high, and 1 in a postsecondary institution. No dominant level could be determined for 4 teachers. As mentioned, 2 indicated that they did not teach English.

Years of experience teaching English ranged from .3 to 25 with a mean number of 10.5 years of experience. The educational setting varied. The majority (12) taught at a School for the Deaf, 8 taught in a regular school with special classes, and 6 were itinerant teachers. Eighteen of the teachers were hearing, 6 were deaf, and 1 hard of hearing. One participant did not provide information on hearing status.

Further discussions regarding teachers of the deaf and hard of hearing are focused on their responses to questions requiring a rating of helpfulness. Where differential responses existed, cross tabulations were constructed to examine the effects of school setting, grade taught, years of experience, and hearing status on response ratings.

Summary of Likert Scale Responses

Teachers' ratings were characterized by greater agreement on the helpfulness of statements and a high concentration of ratings of 4 and 5. Exceptions to this occurred for statements I (being encouraged to draw pictures in elementary school) Q (teachers correcting writing for students), S (criticism of students' English writing skills), and T (focusing on grammar in writing corrections). There was disagreement among teachers on the helpfulness of these practices as evidenced by a greater range of responses (table 14).

It is interesting that all statements referred to as "controversial teacher practices" received such a range of responses and substantially lower mean ratings. (All other statements, not included on table 14, received a mean rating of between 4.1 and 4.9). For statement I, while there is some disagreement, there is a greater concentration of responses in the 3, 4, and 5 ratings. For statements Q and T, the responses are concentrated in the central ratings with more teachers feeling that correcting writing for students is not helpful than focusing on grammar. For statement S (negative criticism of English writing skills), the general trend of responses concentrated in 4 and 5 is reversed. There were no teachers who deemed this practice 'very helpful' and the majority judged it to be 'not helpful'. A small number did however, rate it as 'somewhat' or 'moderately' helpful. One teacher rated criticism of writing skills as 'helpful'. The answer, however, was qualified with the following statement "pretty loaded question. I've interpreted it as feedback re: errors." It may be safe to assume that this teacher would not rate 'negative' criticism as helpful.

Table 14.

Differential response frequencies to Likert Scale questions.

	Response					
Statement	1	2	3	4	5	Ave[a]
I: Students encouraged to draw pictures.	1	1	7	6	11	3.9
Q:Teachers correct writing for students.	6	3	7	3	5	2.9
S: criticism of student's writing skills	12	8	5	1	0	1.8
T: Focus on correcting grammar	2	6	9	6	2	3.0

Notes: [a]provides the mean rating per statement.

These statements (I, Q, S, and T) were examined in relation to other possible mediating variables. A chi-square test of independence was performed comparing the ratings above the mean of 3 and equal to or below according to educational setting, grades taught, years of experience and hearing status. No significant interaction occurred between variables indicating that differences in ratings could be accounted for by chance.

Rank Ordering of Teacher's Responses

Rank ordering of teachers' responses per category allows for interesting comparisons to the group of deaf adults who considered themselves successful writers.

Rank ordering of teacher's responses per category is as follows and mean ratings are presented in the brackets following the statements:

1. Home attitude towards learning to read and write. (4.9)
2. Personal attitude towards learning to read and write. (4.7)
3. Teacher's attitude/Being read to at home. (4.6)
4. Reading and writing practice at school. (4.5)
5. Technology use at home/Teacher Practices - positive. (4.4)
6. Technology use at school. (4.3)
7. Writing for communication at home. (4.1)
8. Teacher practices - controversial. (2.5)

Drawing conclusions from such close mean ratings is difficult. It is clear, however, that those teacher practices labeled 'controversial' were deemed considerably less helpful than others. Despite the close mean ratings, some interesting observations can be made, particularly when comparing rank ordering to successful deaf adult writers.

To teachers, the attitudes of all persons involved in educating the deaf student were of paramount importance for developing English writing skills. Being read to at home was considered equally as important as teachers' attitudes. Although most home related practices tended to be rated higher, the clear delineation between home related and school related influences, so apparent for the successful deaf adult writers, was not so apparent in the teacher's ratings.

Teachers did not rank the practice of writing notes for communication as highly as did successful deaf adult writers. Of particular interest is the difference in ranking between teachers and both deaf adult groups for the use of technology, either at home or in school. Technology use was rated lower by the teachers than by either of the deaf adult groups.

Response to Open Ended Questions.

Teachers were asked 3 open ended questions. These were the same as questions 1, 2, and 3 asked of the deaf adult participants. Common responses were determined and are presented here with reference to frequency of mention.

Question 1: What experiences/practices do you feel are most helpful to deaf students when learning to write in English?

There were numerous and varied responses to this question. Twenty five responses had to do with writing activities in school which support the process teaching approach philosophy. They included providing opportunities for writing practice for varied and meaningful purposes (9), providing a variety of experiences related to writing activities and prior to writing lessons (5), brainstorming ideas for writing (3), providing sample written work for students (3), storytelling,(2), providing opportunities to self edit (2), sharing writing with teachers and peers (1), creating a classroom environment that places value in reading and writing and promotes confidence (2). Focus on grammatical aspects of writing was suggested only twice and in one case, the suggestion was made not to focus attention on grammar. Using a computer to enhance writing skills was mentioned by only 2 teachers. Using a variety of media for presentation was also mentioned 4 times.

The child as an able communicator was mentioned second most frequently as a circumstance most helpful in promoting English writing development. This was suggested by 10 teachers. However, like the deaf adults, there was little agreement on the form of communication. Four named the ability to communicate in ASL, and 1 each designated communication ability in Signed English, and 'spoken and signed communication'. Providing reading opportunities was also deemed to be one of the most helpful experiences to students. The responses provided to this question constitute an extensive and valuable list of teaching techniques. They are listed in appendix K.

Question 2: What people do you feel are most influential in helping deaf students to learn and how?(e.g. mother, father, teachers, friends, professors, employers -- deaf/hearing?)

In response to question 2, most teachers stated that family and teachers were equally influential in promoting writing development. The comments of two teachers in particular summarize the importance of the interplay between the home and the school. One stated, "I strongly feel that a teacher cannot succeed on his/her own without support from home when it comes to teaching deaf students to write well in English." Another stated that, "I don't believe the school can ever fully compensate for an impoverished language environment in the home."

Second most frequently mentioned were parents. They were said to be helpful by modeling writing for their children, reading to their children and emphasizing the importance of reading and writing. One teacher observed that, "those [students] who have most difficulty reading and writing come from homes where it is not a priority". Still another participant detailed teachers as most influential, with the qualification, "communication [between teachers and parents] is a must".

"All people who come in contact with the deaf child" comprised the third most frequent response. Peers and other deaf people as role models were mentioned twice each.

Question 3: Other Comments

There were 11 teachers who offered other comments directly related to the content of the study. Four each itemized the importance of encouraging reading and of effective communication. Of those who mentioned the importance of reading, 2 also mentioned the importance of writing practice. One teacher stated that, "any deaf child who reads on his/her own will indeed learn how to read/write English effortlessly." This participant was a deaf teacher of the deaf and may also have been one of those deaf adult respondents who advocated individual reading as highly influential. It is interesting that one other participant expressed a quite different view regarding the effect of reading on writing development. This person said, "I firmly believe that writing is only learned through practice opportunities i.e. 'great readers' do not necessarily become great writers".

The development of language and communication skills was mentioned 4 times with the language specified only once each as ASL or English .

Case Study of Participants with Deaf Parents

Only 2 participants identified themselves as having deaf parents. Deaf children of deaf parents constitute a special situation, even though it is a rare occurrence. This discussion presents demographic information and a summary of those experiences each deemed helpful in learning to write. It is important to note that the two participants were characterized more by their differences than their similarities. This is, perhaps, testimony to the heterogeneity of the deaf population.

Summary of Demographic Information.

In one case, both mother and father were deaf. In the other, the mother was deaf and the father hearing. Both participants were profoundly prelingually deaf. Both used ASL to communicate at home and, in the case of the participant with a hearing father, ASL and spoken English was used. The similarities between the two participants end here.

The individual with the deaf mother only answered questions relating to education for high school only. This male, aged 20, attended a special class within a regular school where the language of instruction was oral English interpreted to ASL. He learned most about writing English in high school. This person does not write regularly now. His father did construction work and his mother was a domestic worker. He has one younger, deaf sister. He rated his skills in ASL and his English writing skills well below the mean for the entire deaf adult group. This placed him in the non-successful writer's group.

The second participant was a female, aged 42. She completed a masters degree. During regular school she attended a School for the Deaf where the language of instruction was primarily Total Communication, with high school in ASL. The time of greatest learning of English writing was elementary school using the Fitzgerald Key. Her father was a heavy duty factory worker and mother a homemaker. She had 3 sisters, one older (hearing), and two younger (deaf). She writes daily now for work, pleasure, school, and clubs. Her self assessment of both ASL and English writing skills were high (at the highest point possible on the scales). This placed her in the category of 'successful' writers.

Responses to Likert Scale Questions.

As has been illustrated, these 2 individuals were characterized more by their differences than their similarities. This is also true of their experiences learning to write in English. Responses to Likert questions were the same in only 4 instances. Both individuals rated 5 to the statement "my parents read to me when I was growing up", neither watched closed captioned videos at school, nor had teachers show them examples of different kinds of writing. Both, however, had teachers discuss their writing with them and rated it moderately helpful.

When examining highest and lowest rated statements, there is only one commonalty. As stated, both participants experienced their parents reading to them and rated it 'very helpful'.

For the successful writer, all home related statements that were experienced were rated as 'very helpful'. To the statement "my brothers and sisters read to me when growing up", she added that the opposite was more true, with "I read to my sisters all the time". She also added to the statement, "my family wrote notes to each other at home" that she and her family constantly wrote letters between the residential school and home. She responded with a 'very helpful' rating to the statement "reading and writing were considered important at home". For the non-successful writer, the only home related statements judged to be 'very helpful' were being read to by parents and watching closed captioned TV or movies. Writing notes for communication and having books in the home were not experienced. Other adults reading was considered not helpful, using a TTY was rated as 'somewhat' helpful, reading and writing being considered important at home was evaluated as 'moderately' helpful.

School related statements which received highest rating for the successful writer were L ("I read by myself at school"), W ("my teachers made me feel like what I write was important to them"), and X ("I felt it was important learn to write in English"). The high value placed on statements L and X is in keeping with the entire group of successful writers who placed these among the most helpful of all experiences. The individual in the non-successful group rated being made to feel like his writing was important to teachers slightly lower at 4. Reading by himself in school was rated as 'somewhat' helpful, and his feeling of the importance of learning to write in English was not helpful to the development of writing skills.

Lowest rated statements (rating of 1) for the individuals were also different. Lowest ratings for the successful writer were I ("I was encouraged to draw pictures in elementary school"), the two statements which referred to having writing criticized by teachers and a focus on grammar instruction. These ratings were similar to those of the group of successful deaf adults. The non-successful participant did not respond to whether or not he was encouraged to draw pictures, and did not experience having writing criticized, or a focus on grammar instruction. For this participant, lowest ratings were for statement B ("Other adults read to me when I was growing up"), and X ("I felt it was important to learn to write in English"). A low rating for the importance of learning to read and write in English is not similar to the group of non-successful writers. A low rating for B is similar.

It is clear that both experiences of these two participants were different. Their opinions of experiences that helped promote their writing skills were also very different.

This was apparent, not only in their responses to statements, but also in their responses to open ended questions.

Responses to Open Ended Questions.

Questions 1 and 2 were not answered by the non-successful writer. The individual who assessed her writing as successful, however, credited herself "as an avid reader" as most influential in her writing development. Secondly, she credits her interaction with her sisters. She read stories to these siblings and also attributed letter writing between family members as highly influential in her writing success.

For suggestions/advice to teachers, she offered the following statement "provide more guide towards appreciation of mere reading and more practice with 'casual' writing (letter writing)." This was similar to the overall advice provided by deaf adult participants. Her responses to open-ended questions were also reminiscent of the idea that personal effort and individual activity (i.e. reading and writing practice) were instrumental in the development of writing skills. Her advice was similar to both the successful deaf adult group and the teachers, in that she detailed the importance of providing reading and writing opportunities to students. The advice of the second participant was less typical of any of the groups discussed. He suggested that deaf students should start to learn spoken English at an early age.

Conclusion

Chapter IV presented a comprehensive analysis of the responses of the 2 samples in the study. The effects of type of schooling, language of instruction, degree of hearing loss, age at onset, language at home, and parental occupation were examined in terms of educational achievement and self assessment of English writing skills. Many of those individuals who attended primarily a school for the deaf, and those who experienced some form of sign language at school or at home tended to rate their English writing skills as poor, despite high school completion. It also became evident that many deaf adults had encountered inconsistencies in school type, language of instruction, and language at home.

Responses regarding experiences that promote writing development also revealed some differences between those who considered themselves successful, and those who considered themselves non-successful writers. Successful writers viewed home experiences as more valuable than school. They also saw greater helpfulness in the practices of reading by themselves and having the opportunity to practice writing for various purposes. These findings were supported by the responses to open ended questions where there was a sense, among successful writers, that personal effort provided success in writing, and among non-successful, that external (primarily school related) factors were optimally helpful.

Teachers responses regarding school related issues, for the most part, upheld current research which suggests that those practices most closely related to the process approach to writing instruction are primarily helpful. They also pointed out the importance of the delicate interplay between home and school. A difference occurred between the value placed on technology by teachers and by both successful and non-successful deaf adults. Deaf adults think technology is more helpful than do teachers.

Lastly presented in this chapter was a brief case study of those deaf participants who had deaf parents. It is important to examine these individuals as they represent a very small proportion of the deaf population with special circumstances of interest to researchers. Although some similarities existed in family makeup, the differences between the experiences of these 2 individuals were more apparent . These serve to remind of the heterogeneity of the deaf population and of the importance of acknowledging such differences.

CHAPTER V DISCUSSION

The purpose of this study was to access, via questionnaires, the opinions of those primarily involved in the development of writing in order to document practices and experiences considered most valuable. In doing this, deaf people were given the opportunity to share their knowledge and contribute to the body of information that exists on the issue of developing writing skills among deaf students. Teachers of deaf and hard of hearing children were also given the opportunity to reflect on their philosophies and practices, and present for discussion, what they believe to be most instrumental in promoting writing development. This chapter contains a presentation and discussion of the major findings of the study, implications of findings for the field of deaf education, limitations of the study, and suggestions for further research.

Summary and Discussion of Demographic Influences

Before presenting the findings which specifically relate to experiences or practices believed to promote writing ability, it is necessary to comment on other issues that arose as a result of this investigation. These are related to the importance of writing to the deaf population studied, and to the observed inconsistencies in educational setting and language of instruction experienced by a number of the deaf adult population. A brief discussion of apparent trends in self assessment of writing skills is also included.

Writing Habits

Testimony to the importance of writing to the daily lives of deaf individuals was the overwhelming affirmative response to the question about whether or not these individuals write regularly now. The vast majority (37) indicated that they write now and of those, most indicated that they write regularly and for many and varied purposes. The data supported Maxwell's (1985) assertion that writing becomes a necessary component for "daily exchange of information in the home, [and] in public. . ." (p. 205), as well as for work and school purposes. They also supported the necessity of viewing literacy in the individual's social, cultural, as well as personal and educational context (Maxwell &

Falick, 1992; Schirmer, 1994; Webster, 1986; Quigley & Kretschmer, 1982). The irony here is that a group of people whose access to the mainstream language is restricted is dependent upon that language for more purposes than other groups of people. Maxwell (1985) recommended the incorporation of the daily functional uses of writing into the classrooms of deaf students. While the use of dialogue journals is considered beneficial to deaf students (Schirmer, 1995), Maxwell advocated expansion of this idea to incorporate writing as communication with different members of the school community.

School Placement and Language of Instruction

As mentioned, in this study, there were a large number of cases of movement between educational settings for many of the deaf adults. In some instances, there were numerous different schools attended for short periods of time. Although the existence of different options for schooling is well known, to have observed such a variety of school placements experienced by individual participants illuminated the issue. A change in school and/or type of school for a deaf individual, does not simply constitute a change in educational focus due to differing philosophies. Instead, it may constitute a more fundamental change, that is, a change in the language in which the child is instructed. While it is beyond the scope of this investigation to explore the efficacy of one setting or language over the others, it is important that the effect of changing educational settings be recognized as somewhat unique, and possibly problematic situation for deaf students. Gregory, Bishop and Sheldon (1995) in their follow up study on deaf people and their families, observed that their subjects had experienced similar types of transience between schools. In their study, parents voiced their feelings that they had little choice of school in the early years but followed the advice of their local education authority or professional advisor. Changes, parents said, were often made in later school years when their knowledge of school options and of deafness increased. Nevertheless, many parents were reported as continuing to ponder and have regrets about the school choices and changes that took place for their children. Whether or not this was the situation for the deaf adults in the current study is speculative. However, there is little reason to believe otherwise. Professionals continue to advise parents about educational placement and language. They also continue to espouse diverse views regarding these two important issues. Rodda and Grove (1987), in referring to the 'oral versus manual controversy' stated that, "in such a climate, it is scarcely surprising that the educational attainments of the hearing impaired child have suffered" (p. 74). It is important for professionals advising parents on educational placement and language, to present all possibilities and relevant factors rather than exclusively support one method.

Writing Assessment , School Placement and Language

Deaf adult participants in this study, were designated as 'successful' or 'non-successful' writers, depending on their evaluation of their own writing skills. As was demonstrated, there was a general correlation between writing skill assessment and high school completion. However, some anomalies did exist and are worthy of discussion. A large proportion of those deaf adult participants who attended a school for the deaf, and were educated primarily through ASL or sign supported systems, rated their English writing skills as non-successful despite high school completion. There is mention in the literature of the suppression of American Sign Language throughout the history of deaf education (Carver, 1989a; Carver, 1989b; Moores, 1986; Rodda & Grove, 1987). The superiority of the English language was implied through insistence on its use in schools for the deaf. It is likely that the low estimation of English skills by those who attended a school for the deaf or used ASL and other sign systems in school, is, at least in part, a carryover of negative messages about schools for the deaf and the use of signs. Rodda & Grove (1987) suggested that language delay, and hence delay in literacy development, is not a function of sign language use but more a function of lack of language experience.

Many of the individuals who used sign systems (other than ASL) at home, also evaluated their English writing skills as poor despite high school completion. In theory, the representation of English words, word order and syntax through signs increases exposure by making the language visible. In reality, some say, that in the melding of the 2 forms of language, the message often becomes confused or lost and the deaf child may be exposed, neither to an intact language system nor to an intact message (Johnson, Liddell, & Erting, 1989). It is possible that deaf adults in this study, who used 'other sign systems' at home, were left with this confusion about language and therefore about their writing abilities.

Summary and Discussion of Factors Believed to Promote Writing Ability

The following discussion refers to the response ratings of statements presented in the questionnaire and to the research questions specifically. Responses from successful and non successful deaf adult writers, as well as teachers are presented.

Research Question #1 - Of those influences, believed to promote writing ability which ones have been experienced by deaf adults?

There were no statements to which deaf adults responded unanimously 'yes' or 'no'. There were however, statements to which there were fewer 'yes' responses. This occurred in all statements which related to technology use. Despite the fact that fewer deaf adults experienced the use of technology while growing up, all technology use was rated as helpful to writing development. It is interesting to note that there was a higher incidence of 'yes' responses to the use of computers in school by those deaf adults who rated themselves as "non-successful" writers. This is likely due to the high occurrence of attendance at upgrading or pre-literacy programs by these individuals. It is likely that their experiences in upgrading programs included the use of computers, and that their responses were made in reference to these more recent experiences.

There were also fewer 'yes' responses by deaf adults to the statement which asked if they had experienced negative criticism by their teachers. While it is positive that there were fewer 'yes' responses to this statement than to others, there were still approximately 50% of the deaf adults who felt their writing had been criticized by teachers.

Research Question #2- Of those influences believed to promote writing ability, and experienced by deaf adults, which ones do they view as most helpful in the development of their English writing skills?

Comparisons of the self-rated successful and non-successful deaf adult writers yielded some interesting results. As mentioned both groups considered computer use as helpful to their writing development. Likewise, they both placed high value on the importance of a positive personal attitude towards reading and writing. Neither group considered negative criticism helpful, nor did they attribute being encouraged to express their feelings in their writing as useful.

Despite limitations in exposure, both groups of deaf adults considered use of technology at home and at school as substantially helpful in developing English writing skills. Most noteworthy is the high value placed on computer use in school by the deaf adult group and the considerably lower value placed by teachers. The reports on the ENFI projects provide ideas for promising applications of computer use in the classroom (Miller, 1988; Payton & Horowitz, 1988; Hunt, 1988; Payton, 1988). While the trials have not been without technical difficulties, the contribution of interactive computer use to promote writing development in natural interactive ways is reasonable. Reference to the use of computers (or any technological devices) for literacy development in deaf children is sparse in the literature. This is an area which warrants further investigation.

All deaf adults (and teachers) viewed a student's positive attitude towards learning to write in English as similarly helpful. It was the only statement that all participants ranked among the top three most important. Successful deaf adult writers and teachers, further agreed on the importance placed on a positive attitude in the home, and for the practice of individual reading. Non-successful deaf adult writers did not consider a positive home attitude or independent reading as helpful as did the other groups.

There were few but interesting statistically significant differences in ratings between successful and non-successful deaf adult writers. Successful writers considered the practice of reading as significantly more helpful than did the non-successful group. The importance of reading to the development of literacy is referred to frequently in the literature (Graves, 1983; Ewoldt, 1985; Krashen, 1984: Quigley & Kretschmer, 1982). Those deaf adults who considered themselves successful writers certainly concurred with such ideas. Krashen (1984) cited a number of studies which indicated that voluntary, pleasure reading contributed significantly to the development of writing ability. These studies (Donalson, 1967; Ryan, 1977; Woodward & Philips, 1967; cited in Krashen, 1984) compared the writing performances and backgrounds of "effective" versus "non-effective" writers. In each study, all better writers reported having read more for pleasure, owned more books, having had parents read to them, or a combination of such experiences. It is interesting to note that, although the non-successful deaf adult group did not attribute a great a value to their personal reading, they recommended encouragement to read as a suggestion to teachers of deaf children, most frequently.

A similar situation can be observed for the second experience where a significant difference existed between the ratings of successful and non-successful writers. Although this was not rated as highly as reading practice by any group, there are interesting observations to be made. The successful deaf adult group rated the opportunity to write as significantly more helpful than did the non-successful group. However, the non-successful group appeared to recognize its potential by, once again, providing the encouragement of writing practice as a suggested approach to writing development. Researchers have alluded to the fact that learning to write is an experiential process (Conway, 1985) and ample opportunity to practice writing is essential to its mastery (French, 1995; Graves, 1983). Certainly deaf adults appeared to recognize its importance. Krashen's (1984) discussions and review of research supported these findings by noting the influence of writing practice on the development of writing. It was suggested that, although helpful, writing practice was not as influential as personal reading or being read to at home.

Although it is speculative, there appeared to be a sense among successful deaf writers that their own efforts, particularly with reading, were instrumental in their success as writers. This was supported in the responses to open ended questions where individual reading was said to be the most contributory factor for successful writers. Carver (1989a) referred to the self-made success of himself and other deaf individuals in the area of literacy. He stated:

> A major goal of education of the deaf should be to instill in deaf students a sense of independence and value of reading and writing . . . A number of deaf persons who acquired their education on their own in this manner indicate that it is indeed possible. I bear living testimony to it, as I am one of those self-educated and highly literate deaf persons.
>
> (p. 129).

The idea that success in writing was largely attributable to personal efforts appears to be a theme among successful writers in this study and is in keeping with recent research on attribution and locus of control (Dohrn & Bryan, 1994). Although attribution research has most often been done in reference to children with learning disabilities, its applicability to deaf students is promising, and certainly in light of findings in this study. Dohrn and Bryan (1994) suggested that,

> "people who believe that consequences stem from their own actions are described as having an *internal locus of control*.. In contrast, people who believe that their experiences are the result of factors external to themselves, . . . have an *external locus of control.*
>
> (p. 61).

Those with an internal locus of control for success tend to be more confident and willing to engage in more cognitively challenging tasks,. Those with an external locus of control for success tend to be less confident and may withdraw from cognitive challenges. Dohrn and Bryan (1994) suggested that there is a correlation between locus of control and school performance, achievement, and self-concept. Those with an external locus of control for success tend to score lower on all three measures. They also noted that children, whose beliefs about success and failure have been changed (that is, taught to believe that success can be a result of their personal efforts) have realized gains in academic achievement.

In the current, study those who assessed themselves as "successful" writers also suggested that their accomplishments were largely due to their own efforts. They were also more likely to have completed a high school diploma. Those deaf adults who assessed themselves as "non-successful" writers made little or no mention of their own personal efforts as contributing to their writing development. They did, however, propose personal reading as a suggestion to promote writing ability thereby acknowledging the contribution that personal pursuits can make if practiced. Instilling a sense of personal ownership pride in accomplishments may enhance the writing development of deaf students.

Having writing criticized by teachers was one of the statements which received a lower rating by all three groups. To discuss the detrimental effects of negative criticism may be to overstate the obvious. However, it is important for teachers to realize that, despite their view of it as a non-helpful practice, approximately 50% of respondents felt that their writing was negatively criticized by teachers. Many deaf people, in conversation, and sometimes, in the literature allude to the criticism they received during school years and the adverse effects of such criticism.

Being encouraged to express feelings in writing was deemed by both groups of deaf adults as one of the least helpful factors, and third helpful by teachers of deaf children. Expressing one's feelings in writing is a complex and precise task. For deaf writers who frequently demonstrate a lack of fluency in writing, and an excessive concern with controlling simple sentence structures (Webster, 1986), expressing feelings adequately may be too exacting a task. While it may desirable to encourage children to express their feelings in writing, it should be done with a realization of the difficulty and risk that the task poses. The very different ratings given by teachers and deaf adults, for this task, should serve as a trigger for teachers to do some preparatory work before expecting deaf children to embrace the idea of expressing their feelings in writing.

Before discussing the results from categorized responses, mention should be made of the value of seeing other forms of writing to the successful deaf adult group. This they rated as one of the most helpful practices. Reference is made to the importance of models and model writing for deaf children (Carver, 1989b; Isaacson & Luckner, 1988). One participant related the anecdote that she did not understand the purpose of writing until a friend showed his writing to her. This occurred during her postsecondary years. Teachers perhaps underestimate the power of model writing for the deaf student.

Categories of Factors

Once factors believed to promote writing ability were categorized, one most interesting trend appeared. For successful deaf adults, there was a much clearer delineation between home related and school related practices. With the exception of use of computers in school, all home related statements were considered more helpful than school related. This was not the case for group of non-successful deaf adult writers. For this group, even the teacher practices considered controversial were considered more helpful than being read to at home or writing notes for communication at home. It is likely that those deaf adults who judged themselves to be "successful" writers received more support from home and recognized the value in the support. In other cases, the value of a supportive home environment may have been seen as less helpful because the support was not provided.

The importance of effective communication, between teacher and students, was a recurring theme in the open responses deaf adults and teachers in this study. As mentioned, the form of communication was not agreed upon. Maxwell and Falick (1992) suggested that coherence in writing is rooted in communication and discourse, thereby underlining the importance of conversation in writing development. Wood et al. (1986) agreed that the ability to sustain conversation contributes to literacy. In an extensive study of conversational styles of teachers with deaf students, they found a generally high degree of teacher control. Limited input into classroom conversations created difficulty, for the deaf child, in providing accounts of their own experiences and ideas. This is likely to translate into difficulties in writing about such experiences and ideas. In classrooms where there was less teacher control of conversations, students were more willing participants in conversations. Rodda and Grove (1987) also noted that teachers and parents of deaf children tended to monopolize conversation and therefore limit interaction and input from the deaf child. Such approaches do not facilitate the development of language or conversational skills so important to writing development. Participants in this study who refer to the importance of effective communication between teachers and students, are likely referring to the importance of engaging the child in conversation and encouraging expressive language which, in turn, is likely to enhance writing skills.

Research Question #3 - Of influences/practices currently believed to promote writing ability, how helpful do teachers of the Deaf and hard of hearing view them to be for their students?

Teachers ranked the attitudes of the students, teachers, and the home as the 3 most helpful influences on the writing development of the deaf child. This is reflective of opinions that willingness to learn, positive home support, positive teacher attitudes and a willingness to focus on students' capabilities (Conway, 1987) are of paramount importance to writing development.

It is interesting to note that once categorized, teachers responses did not reflect the same high ranking of the helpfulness of home related experiences as did those of the "successful" deaf adult writers. It may be that teachers were more cautious about commenting on those influences they do not actually witness. It may also be that teachers feel a lack of control over the home environment and tended to weight more heavily those school related practices with which they have direct involvement. In open responses, however, teachers frequently referred to the importance of combined effort between home and school and to the idea that efforts to teach writing can only be successful with positive support from home.

Implications for Education

This exploration of the views of 2 levels of expertise in the area of literacy development for the deaf has provided a number of important implications for education. First however, must be noted the importance of consulting deaf people and teachers for input into a process in which they are both involved. By looking at the views of both these groups of people, practices and experiences of most benefit have been documented. By comparing the views of "successful" and "non-successful" deaf adult writers, and teachers some interesting considerations for education have been highlighted.

Of particular interest, are those of which were not agreed upon by deaf adults and teachers. These are the use of computers as a means of promoting literacy development and expression of feelings in writing. Deaf adults were almost unanimous in their agreement on the benefits of computer use. Teachers should take note of such a positive response and examine ways in which computers can be integrated into their classrooms to promote both interactive and more formal writing opportunities and to align writing activities to more functional purposes.

The lack of enthusiasm for expressing feelings in writing by deaf adults, should also be noted by teachers. Indication that expressing feelings is not helpful to deaf adults may be an indication of an anxiety or feeling of inadequacy. Teachers should explore these possibilities and take measures to ease anxieties that may exist before asking for expression of feelings.

The importance of the family in the development of literacy skills was mentioned by both successful deaf adult writers and teachers. Family members were seen as influential as role models, in terms of promoting real communication, and in terms of instilling a value of print for their deaf children. While these are well accepted suggestions, findings in this study serve to remind of the importance of home influences and the importance of communication between home and school. Krashen (1994) and Phillips (1992) suggested that children, parents, and teachers may benefit from the establishment of programs whereby parents are shown ways in which they can assist with their child's literacy at home.

The frequent mention of the importance of communication between teacher and deaf students also reminds us of the necessity to engage students in meaningful conversation as a means to enhance their ability to communicate and hence their writing skills. Research on locus of control and attribute training may also have applicability to the deaf learner. Instilling or promoting a sense of ownership and pride in writing, as well as assisting the student to engage in personal activities that promote writing development may also help the student persist with writing and feel a sense of accomplishment and confidence.

Limitations of the Study

The primary limitation of this study stems from the fact that data collected from deaf adults is based on recollections of their school years. Recollections may become dimmed by time or biased by recent knowledge. That is, more recent discussion of the benefits of the process-approach to teaching writing may have influenced responses from deaf adults, particularly those who are teachers. However, the willingness and clarity with which many deaf people discuss their educational experiences suggests that biased recollections may be minimal.

The lack of an objective measure of writing skills may be viewed as a limitation. However the correlation between high school achievement and writing skill assessment diminishes concerns about a subjective measure as a basis for distinguishing writing success.

Recommendations for Further Research

Some issues that warrant further study have been identified as a result of this research. Initial, positive reports of the impact of interactive computer programs on writing development, coupled with increased availability of such programs and teacher knowledge of computer applications in the classroom opens possibilities for studies into this area. Deaf adults have clearly related the value of computer use to their writing development and therefore provided a valuable suggestion for further research.

The fact that "successful" deaf adult writers commented on the importance of personal effort in writing development suggests that the importance of promoting an internal locus of control is applicable to this population. Efforts to enhance self-concept and improve academic performance through changing belief systems about the source of success have been undertaken primarily with learning disabled students. Studies of this nature undertaken with the deaf population are likely to yield valuable insights.

This study used deaf adults' personal assessments of writing skills as a measure of writing ability. In order to base other studies on such an assessment, it would be beneficial to examine the accuracy of self perception of writing ability against an objective measure using writing samples.

Lastly, the importance of the family to the development of literacy has been discussed numerous times throughout this research. Discussions have generally made reference to the important role of the parents. Studies on the influence of siblings (either deaf or hearing) on the literacy development of the deaf child would be a worthwhile addition to current body of knowledge

Summary

The intent of the final chapter was to summarize and discuss the major findings regarding factors that are believed to promote literacy development among deaf students. Its purpose was also to synthesize the views of the two study groups and present for consideration overriding themes, implications for educators, and suggestions for further research.

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APPENDIX A

WRITING QUESTIONNAIRE - DEAF ADULTS

APPENDIX A WRITING QUESTIONNAIRE - DEAF ADULTS

This questionnaire has **4 PARTS.** Please try to answer all of the questions. If you cannot answer, you do not have to. The information asked for will help to describe those experiences that have helped deaf people to learn to write well in English. **Your individual answers will be kept confidential.**

PART 1. About yourself.

1. How deaf are you? (please check)
    1 ☐ Profoundly (91 dB +)
    2 ☐ Severely (71 - 90 dB)
    3 ☐ Moderately (41 - 70 dB)
    4 ☐ Mildly (26 - 40 dB)
    5 ☐ Unsure

2a. Were you born deaf? (please check)
    1 ☐ Yes (Go to Question 3)
    2 ☐ No (Answer 2b)

2b. At what age did you become deaf (about) ? ________ years old.

3. What education level did you complete? (please check)

1 ☐ No Schooling
2 ☐ Elementary School
3 ☐ Junior High School
4 ☐ High School - IOP Diploma (Certificate of Achievement)
5 ☐ High School - General Diploma
6 ☐ High School - Advanced Diploma
7 ☐ College Diploma or Certificate
8 ☐ Trade/Vocational College Certificate or Apprenticeship
9 ☐ University undergraduate degree or diploma
10 ☐ University master's degree
11 ☐ University doctorate degree
12 ☐ Other (please explain)___________________________________

4. What type of school(s) did you attend? (please place a check mark in all appropriate columns)

	Elementary	Jr. High	High School	Postsecondary
A. Completely Mainstreamed (Hearing School)	______	______	______	______
B. Self-contained classroom in hearing school for some classes	______	______	______	______
C. Self-contained classroom in hearing school for all classes	______	______	______	______
D. School for the Deaf	______	______	______	______
E. Other (please explain)	______	______	______	______

____

4b. What method of communication was used in these schools?
Put the numbers in the spaces below :

1 = American Sign Language
2 = Signed English
3 = Total Communication
4 = Oral English
5 = Oral English with interpreting to ASL
6 = Oral English with interpreting to Signed English
7 = The Rochester Method (Fingerspelling only)
8 = Other (please explain)

Elementary ____________________

Junior High ____________________

High School ____________________

Postsecondary ____________________

5. When (which school years) did you learn most about how to write clearly in English? (please check one)

1 ☐ Elementary School
2 ☐ Junior High School
3 ☐ High School
4 ☐ Postsecondary School
5 ☐ Other (please explain) ____

6a. Do you write regularly now? (please check)

1 ☐ Yes (Answer 6b)
2 ☐ No (Go to 7)

6b. Do you write for: (please check as many as necessary)

1 ☐ Work
2 ☐ Pleasure
3 ☐ School
4 ☐ Clubs or Organizations
5 ☐ Other (please explain) ____________________

6c. How often do you write now?

1 ☐ Every day
2 ☐ Every Week
3 ☐ Twice a week
4 ☐ Once a month
5 ☐ Once a year
6 ☐ Other (please explain) ____________________

7a. Using the scale below, please indicate how you would rate your skills in American Sign Language. (Put a mark on the line e.g. |_____|_____|).

____

____

The same as an average hearing person who uses ASL as a second language.	The same as a person born deaf who uses ASL as a first language.

7b. Using the scale below, please indicate how you would rate your skills in English writing. (Put a mark on the line e.g. |_____|_____|).

____

The same as an average deaf person who uses English as a second language.	The same as a hearing high school graduate.

8. Are you male or female? (please check)

1 ☐ Male
2 ☐ Female

9. What is your age? ___ ___

PART 2. About your family and background.

1. Are your parents deaf or hearing? (please place a check mark in the appropriate boxes)

	Deaf	Hearing
Mother	1 ☐	2 ☐
Father	1 ☐	2 ☐

2. What kinds of work do/did your parents usually do?

Mother ______________________________

Father ______________________________

2b. What kind of business or organization do/did your parents usually work for?

Mother______________________________

Father ______________________________

3a. How many brothers and sisters do you have? Brothers ________

Sisters ________

3b. Please indicate if your brothers and sisters are older or younger and deaf or hearing? (please write the numbers in the spaces below).

	Brothers			Sisters	
	Deaf	Hearing		Deaf	Hearing
Older	________	________	Older	________	________
Younger	________	________	Younger	________	________

4. How did your parents usually communicate with you when you were growing up?

1 ☐ In American Sign Language
2 ☐ In American Sign Language plus spoken English
3 ☐ In spoken English
4 ☐ In spoken English plus home made signs
5 ☐ In spoken English plus Signed English
6 ☐ In Signed English
7 ☐ Fingerspelling
8 ☐ Fingerspelling plus spoken English
9 ☐ Other (please explain)______________________________

PART 3.

Part 3 contains a number of statements about learning to write. Please **read each statement** and:

i) answer Yes or No (**circle Yes or No**)
ii) **If** you circled **Yes**, then **circle the number from 1 to 5** to tell **how much this helped you** learn to **write well in English.**

1 means this **did not help** you to learn to write in English.
5 means this **was very helpful** when you were learning to write in English.
Or you **can choose any number in between.**

Statements **Rating**

AT HOME		**Not Helpful**				**Very Helpful**
A) My parents read to me when I was growing up. (sign, oral, or pointing at words.)	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
B) Other adults read to me when I was growing up.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
C) My brothers and sisters read to me when I was growing up.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
D) There were always books to read in my home.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
E) My family and I wrote notes to each other at home.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
F) I watched closed captioned TV/movies at home.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
G) I used a TTY at home when I was growing up.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
H) Reading and writing were considered important in my home.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
IN SCHOOL						
I) I was encouraged to draw pictures in elementary school.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
J) I was encouraged to express my feelings in my writing.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
K) My teacher(s) read to me in school.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**
L) I read by myself in school.	**YES** → **NO**	**1**	**2**	**3**	**4**	**5**

		Not Helpful				Very Helpful
M) I watched CC videos in school.	YES → NO	1	2	3	4	5
N) I had time to practice writing in school.	YES → NO	1	2	3	4	5
O) My teacher(s) discussed my writing with me.	YES → NO	1	2	3	4	5
P) I chose my own topics for writing in school.	YES → NO	1	2	3	4	5
Q) My teacher(s) corrected my writing for me.	YES → NO	1	2	3	4	5
R) My teacher(s) showed me how to edit my own writing to make it clearer.	YES → NO	1	2	3	4	5
S) My English writing skills were criticized (negatively) in school.	YES → NO	1	2	3	4	5
T) My teacher(s) focused on correcting the grammar in my writing.	YES → NO	1	2	3	4	5
U) My teacher(s) had high expectations of my writing.	YES → NO	1	2	3	4	5
V) My teacher(s) helped to me feel like I was a good writer.	YES → NO	1	2	3	4	5
W) My teacher(s) made me feel that what I wrote was important to them.	YES → NO	1	2	3	4	5
X) I felt it was important to learn to write in English.	YES → NO	1	2	3	4	5
Y) My teachers showed me examples of different kinds of writing.	YES → NO	1	2	3	4	5
Z) I used a computer in school to improve my writing skills.	YES → NO	1	2	3	4	5

PART 4. Additional information and **advice** for teaching deaf children to write.

1. Are there any other experiences that helped you to learn to write in English?

____

____

____

2. Who was **most** **helpful** to you in learning to write in English? (e.g. mother, father, teachers, friends, professors, employers -- deaf/hearing?)

____

3. How were these people helpful? ____

____

____

4. What suggestions/advice do you have for teachers of the deaf to help deaf children learn to write well in English?____

____

____

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

YOUR HELP IS **GREATLY APPRECIATED**.

PLEASE RETURN THIS QUESTIONNAIRE AND THE CONSENT FORM

WHEN YOU HAVE FINISHED.

APPENDIX B

WRITING QUESTIONNAIRE - TEACHERS

APPENDIX B WRITING QUESTIONNAIRE - TEACHERS

This questionnaire is designed to get your feelings about what conditions or practices are most helpful for your deaf students to learn to write effectively in English. The questionnaire contains **3 parts.**

PART 1 - Asks for some general information about your teaching experience.

PART 2 - Contains a number of statements of situations/practices in the home and school. You will be asked to indicate how helpful, in general, you feel each circumstance would be in the development of effective English writing skills for your students.

PART 3 - Asks for some of your personal views and advice. **All information will be kept anonymous.**

PART 1.

1. What English classes do you teach to your deaf students?

1 ☐ Elementary School Language Arts - Please indicate the grade(s) ____________
2 ☐ Grade 7 Language Arts
3 ☐ Grade 8 Language Arts
4 ☐ Grade 9 Language Arts
5 ☐ Grade 10 English - Please indicate the course number(s) _____, _____, _____
6 ☐ Grade 11 English - Please indicate the course number(s) _____, _____, _____
7 ☐ Grade 12 English - Please indicate the course number(s) _____, _____, _____
8 ☐ Other (please specify) ____________________
9 ☐ I do not teach English.

2. What other courses do you teach to your deaf students? ____________________

____

3. In what type of educational setting do you teach?

1 ☐ School for the Deaf
2 ☐ Self-contained classroom in a regular school.
3 ☐ Integrated classroom - with deaf and hearing students
4 ☐ Itinerant Teaching
5 ☐ Other (please explain) ____________________

4. How long have you been teaching English to deaf students?

_______ Years.

5. Are you:

1 ☐ Deaf/Hard of Hearing?
2 ☐ Hearing?

PART 2

This section contains a number of items to do with home and school situations/practices. Please **read each item** and indicate **how helpful you feel it would be in promoting good English writing skills** among the deaf students you teach. **Use the scale below** where:

1 means the situation/practice **is Not Helpful**
5 means that it is **Very Helpful,** or you can **choose any number in between.**

Statements	Rating				
	Not Helpful				Very Helpful
AT HOME					
A) A home where parents read to their deaf child. (sign, oral, or pointing at words)	1	2	3	4	5
B) A home where other adults read to the deaf child.	1	2	3	4	5
C) Siblings who read to the deaf child.	1	2	3	4	5
D) A home where there are books to read.	1	2	3	4	5
E) A home where notes are used for communication.	1	2	3	4	5
F) Closed captioned TV/movies.	1	2	3	4	5
G) A TTY in the home.	1	2	3	4	5
H) A home where reading and writing are considered important.	1	2	3	4	5
IN SCHOOL					
I) Students who are encouraged to draw pictures in elementary school.	1	2	3	4	5
J) Students who are encouraged to express their feelings in their writing.	1	2	3	4	5
K) Teachers who read to the deaf child in school.	1	2	3	4	5
L) Students who do individual reading in school.	1	2	3	4	5
M) The use of CC videos in school.	1	2	3	4	5
N) Students who have writing practice in school.	1	2	3	4	5
O) Teachers who discuss their students writing with them (writing conferences).	1	2	3	4	5
P) Students who have the opportunity to choose their own topics for writing in school.	1	2	3	4	5
Q) Teachers who correct the students' writing for them.	1	2	3	4	5

	Not Helpful				Very Helpful
R) Teachers who show students how to edit their writing to make it clearer.	1	2	3	4	5
S) Criticism (negative) of students' English writing skills.	1	2	3	4	5
T) Teachers who focus on correcting grammar in writing	1	2	3	4	5
U) Teachers who have high expectations of the child's writing.	1	2	3	4	5
V) Students who are made to feel as though they are good writers.	1	2	3	4	5
W) Students who are helped to feel that what they write is important to their teachers.	1	2	3	4	5
X) Students who feel it is important to learn to write in English.	1	2	3	4	5
Y) Students who are shown examples of different kinds of writing.	1	2	3	4	5
Z) Students who have the opportunity to use a computer to improve writing ability.	1	2	3	4	5

PART 3. Please provide some **additional information.**

1. What experiences or practices do you feel are most helpful to deaf students when learning to write in English?

2. What people do you feel are most influential in helping deaf students to learn to write well in English and how? (e.g. teachers, mother, father, friends, siblings, adults -- deaf/hearing?)

3. Other comments:

____

____

____

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE
PLEASE PLACE YOUR **COMPLETED QUESTIONNAIRE**
AND CONSENT FORM
IN THE STAMPED ADDRESSED ENVELOPE PROVIDED
AND MAIL IT TODAY!!

APPENDIX C

LETTER OF INTRODUCTION TO DEAF ADULTS

APPENDIX C LETTER OF INTRODUCTION - DEAF ADULTS

Dear Participant,

My name is Carmel Walsh. I am a masters student at the University of Alberta. I am studying under the supervision of Dr. Michael Rodda and Dr. Ceinwen Cumming.

I am doing a study to see what factors help deaf people learn to write in English and I would like your participation.

To participate, you will be asked to complete a questionnaire. It should take you about 20 - 30 minutes. The questionnaire asks for some information about your family and education. It also asks you to choose which experiences most helped you to learn to write in English, and to make suggestions for teachers of the deaf to help their students to write well.

Results of the study will benefit teachers of the deaf and deaf children. They will provide positive ideas about how to help deaf children learn to improve their English writing skills.

You will not be named in the study and your individual responses will be kept confidential. You can withdraw from the study at any time by phoning me on TTY, and asking me to remove your questionnaire.

If you agree to participate, please sign the consent form and complete the questionnaire. You can return them to me when you are finished.

If you prefer to have the questionnaire signed to you, I can do this or an interpreter can be provided.

Thank you for your cooperation.

Sincerely,

Carmel Walsh (Tel: 403 436 - 9000)

Please note: If you are also a teacher of the deaf, you may receive another, similar questionnaire. It will ask for your opinions about what experiences most help **your students** learn to write well in English. Your response to **both questionnaires** will be very helpful and appreciated.

APPENDIX D

PARTICIPANT CONSENT FORM

APPENDIX D PARTICIPANT CONSENT FORM

I, ______________________________ consent to participate in the study
(name)

examining factors that contribute to writing ability in deaf individuals, conducted by Carmel Walsh, Department of Educational Psychology, University of Alberta. I understand that I may withdraw from the study at any time, and that in the use of the results, my anonymity will be protected.

____
(Signature)

APPENDIX E

LETTER OF INTRODUCTION - TEACHERS OF THE DEAF

APPENDIX E LETTER OF INTRODUCTION - TEACHERS OF THE DEAF

Dear Teacher of the Deaf (CAEDHH Member),

My name is Carmel Walsh. I am a master's student at the University of Alberta. I am studying under the supervision of Dr. Michael Rodda and Dr. Ceinwen Cumming.

I am doing a study to see what factors help deaf people learn to write in English and I would like your participation.

To participate, you will be asked to complete the questionnaire (enclosed). It should take about 20 minutes. The questionnaire asks you to indicate how helpful you believe certain factors to be in the development of English writing skills among deaf students.

Results of the study will benefit both teachers of the deaf and deaf students. They will provide positive ideas about which home, school, and personal factors enhance the English writing skills of deaf students.

You will not be named in the study and your individual responses will be kept confidential. You can withdraw from the study at any time by phoning me and asking me to remove your questionnaire.

If you agree to participate, please sign the consent form, complete the questionnaire, and return them both in the envelope provided.

Thank you for your cooperation.

Sincerely,

Carmel Walsh (Tel: 403 436 - 9000 voice/TTY)

Please note: If you are a deaf person and a teacher of the deaf, you may receive another, similar questionnaire. It will ask you to indicate which experiences most helped **you** to learn to write in English. Your response to both questionnaires will be very helpful and most appreciated.

APPENDIX F

LETTER OF EXPLANATION AND REQUEST FOR PARTICIPATION

APPENDIX F LETTER OF EXPLANATION AND REQUEST FOR PARTICIPATION

11207 46 Ave.,
Edmonton, AB,
T6H 0A2
Ph. 436 - 9000.

Feb. 24, 1995.

Dear [Teacher] ,

As we discussed on the phone yesterday, I am forwarding some information about my research. Enclosed is a brief letter outlining the procedure and purpose of my study, a number of questionnaires (each accompanied by a consent form, a letter of introduction, as well as a return envelope).

The letter is one designed for club or association presidents requesting permission to ask their membership to participate in my research. I am sending it to you for information. The questionnaire, for your former students asks for demographic information , as well as for reflections on certain aspects of home and school life. These aspects are circumstances or experiences that are believed to enhance English writing ability. They comprise a number of statements (part 3 of the questionnaire). For each statement, participants are asked to :

a) indicate if the statement is true for them, and
b) if true, indicate how helpful, they feel this was in promoting their English writing ability.

Part 4 of the questionnaire asks for advice and suggestions for teaching English writing to deaf students.

There is very little research that asks deaf adults to reflect on their own educational experiences. This research asks for such a reflection and, in doing so, provides an avenue whereby deaf adults can give some feedback on their own experiences, and input into the education of other deaf children. I believe some very valuable information will be obtained and that teachers will benefit from asking consumers (former students) "what worked for you?"

To provide additional information, and a point of comparison, a similar questionnaire is being sent to teachers of the deaf. This questionnaire asks for teacher's views of the helpfulness of the same experiences and circumstances presented to the deaf adults. In doing this, I will have the points of view of the two groups primarily involved in the education process. I am also enclosing one of these questionnaires (entitled "Writing Questionnaire-Teachers"). If you would like to participate in this study by completing this questionnaire, I would be extremely pleased.

In order to participate, you and your former students should complete the questionnaire and consent form, and return them to me in the envelope provided. The letter that is attached to each questionnaire is for participants to keep. If you or they have any questions or wish to withdraw from the study, my phone number is provided. Please note that the questionnaire and consent forms are numbered. This is to allow me to locate the correct questionnaire should a participant wish to withdraw. The consent form and questionnaires will be kept separately and only cross referred should a withdrawal be requested. The identity of all participants will be kept confidential.

As discussed, I am willing to come to Calgary to explain my research and distribute my questionnaire if you think it is necessary. I am also aware that because I am unknown to your former students, my presence may not necessarily increase the level of participation. Please let me know what you think.

Thank you for your help and very positive response to my request. I look forward to hearing from you.

Yours sincerely,

Carmel Walsh.

APPENDIX G

LETTER OF EXPLANATION AND REQUEST FOR TEACHER ASSOCIATION MEMBERSHIP LIST

APPENDIX G REQUEST FOR TEACHER ASSOCIATION MEMBERSHIP LIST

11207 46 Avenue,
Edmonton,
Alberta,
T6H 0A2.
Ph. (403) 436 - 9000.

December 1, 1994.

Dear [Past President] ,

I am completing my master's degree in the Deaf Studies Education Program (formerly HIP Program), at the University of Alberta. I am studying under the supervision of Drs. Michael Rodda and Ceinwen Cumming and am conducting research for my thesis. I am doing a study to see what factors and experiences help deaf students learn to write in English.

As part of this study, I will be distributing a questionnaire to English teachers of deaf students. I would like to select my research sample of teachers from members of CAEDHH Alberta. I am therefore requesting a list of CAEDHH Alberta members and contact numbers from you.

I realize that you are now the past president of this association and may not be able to fulfill this request yourself. If this is the case, could you please either forward this letter to the new President, or advise me to whom I should redirect my request.

Thank - you for your cooperation.

Sincerely,

Carmel Walsh.

APPENDIX H

RELATIONSHIP OF DEMOGRAPHIC VARIABLES TO ACADEMIC ACHIEVEMENT.

APPENDIX H - TABLE 1

Education Level completed according to Age

	Education Level	
Age	No High School Diploma	High School Diploma
< Mean[a] Age	8	13
(n=21)	38%[b]	62%
=> Mean Age	5	12
(n=17)	29.5%	70.5%

Notes: [a]Mean Age=30 years, [b]indicates the % of each age group, 2 questionnaires were omitted as no response was provided for education level completed ($p \nless .05$).

APPENDIX H - TABLE 2

Education Level by Gender

	Education Level		
Gender	Non Diploma	Diploma	Postsecondary
Male (n=15)	4	11	6[c]
	27%[a]	73%	54%
Females (n=23)	9	14	10[d]
	39%[b]	61%	71%

Notes: [a]number and % represents number of males; [b]number and % represents number of females; [c/d]number and % represents number and % of males/females with a diploma who also completed postsecondary education. A($p \nless .05$).

APPENDIX H - TABLE 3

Education Level according to Degree of Hearing Loss and Age at Onset.

	Education Level	
Degree of Hearing Loss Age at Onset	Diploma NOT Completed	Diploma Completed
Moderate (n=5)		
Prelingual	1	3
Postlingual	1	0
Severe (n=5)		
Prelingual	3	1
Postlingual	1	0
Profound (n=21)		
Prelingual	3	14
Postlingual	2	2
Unsure[a]		
Prelingual	0	1
Other[b]		
Prelingual	0	1
Postlingual	0	1

Notes: N=34 (6 questionnaires omitted because 1 or more of the 3 questions was unanswered or answers were unclear).

[a] Degree of hearing loss was unknown but age at onset indicated pre-lingual.

[b] In each of these cases, 2 responses were indicated for degree of hearing loss (severe-profound and moderate-severe).

($p \nless .05$ for degree of hearing loss or age at onset).

APPENDIX H - TABLE 4

Education Level according to Dominant School Type.

Dominant Type of School	Diploma NOT Completed	Diploma Completed
Regular School *without* Special Classes. (n=10)[a]	3	7
Regular School *with* Special Classes. (n=12)	5	7
School for the Deaf. (n=15)	5	10

Notes: N=37. One respondent omitted because no dominating type of school could be determined. [a]1 respondent omitted -no answer provided for education. ($p \nless .05$).

APPENDIX H - TABLE 5

Education Level according to Dominant Language of Instruction.

	Education Level	
Dominant Language of Instruction	Diploma NOT Completed	Diploma Completed
ASL/Interpreting to ASL (n=10)	5	5
Other Sign Systems (n=13)	3	10
Oral English (n=11)	2	9

Notes: N=34. Six respondents were omitted. Two provided no answer to education level question, for 4 more the predominance of any language could not be determined. $p \nless .05$).

APPENDIX H - TABLE 6

Education Level Completed according to Parental Occupation.

	Education Level Completed	
Parental Occupation	NO Diploma completed	Diploma completed
Professional/Technical & Kindred workers (n=10)[a]	1	8
Managers/Administrators, Farmers/Managers(n=9)[b]	2	7
Sales/Clerical and Kindred Workers (n=5)	2	3
Craftspeople & Kindred/Operatives (except transport) (n=5)	1	4
Laborers(except farm), Cleaning Service (n=7)	5	2
Unknown (n=2)	1	1

[a] 1 respondent omitted - no answer provided for education level completed.
[b] 1 respondent omitted - no answer provided for education level completed.
($p \nless .05$)

APPENDIX H - TABLE 7

Education Level according to Dominant Language in the home.

	Education Level	
Dominant Language in the home	Diploma NOT Completed	Diploma Completed
ASL (n=2)	1	1
Other Sign and Sign Supported Systems (n=14)	5	9
Oral English (n=20)	6	14

($p \nless .05$).

APPENDIX I

RELATIONSHIPS OF DEMOGRAPHIC FACTORS TO SELF ASSESSMENT OF ENGLISH WRITING SKILLS

APPENDIX I - TABLE 1

High school completion and self assessment.

	English Writing Assessment	
High School (n=37)[a]	< Mean	> Mean
High School NOT Completed (n=13)	11	2
High School Completed (n=24)	7	17

[a] N=37, 1 participant declined to assess writing skills, 2 provided no answer for education level completed. ($p < .01$).

APPENDIX I - TABLE 2

Effect of School Type on self assessment of English writing skills.

Dominant School Type (N=38)[a]	English Writing Skills	
	< Mean	>Mean
Regular School without Special Classes (n=10)[b]	4	6
	0[d]	*6*
Regular School with Special Classes (n=12)	4	8
	0	*7*
School for the Deaf (n=16)[c]	12	4
	7	*3*

Notes: ($p < .05$) [a]1 respondent did not provide assessment of English writing skills. No dominant school type determined for 1 participant. [b,c]one participant did not respond to education level. [d]Italics designate number who completed high school diploma.

APPENDIX I - TABLE 3

Effect of Language of instruction on self assessment of English writing skills.

	English Writing Skills	
Dominant Language of instruction (N=34)[a]	=< Mean	>Mean
American Sign Language	8[b]	2
(n=10)	*4* [c]	*1*
Other Sign and Sign Supported	4	8
Systems (n=12)	*3*	*7*
Oral English (n=12)	4[d]	8
	0	*8*

Notes: ($p < .05$).[a]no dominant language determined for 5 participants, 1 did not assess writing skills. [b]1 respondent experienced Hong Kong Sign Language [c]Italics designate the number of participants who achieved a high school diploma. [d]1 participant did not provide education level completed.

APPENDIX I - TABLE 4

Effect of Language in the home on self assessment of English writing skills.

	English Writing Skills	
Dominant Language at home (N=38)[a]	< Mean	> Mean
American Sign Language (n=2)	1	1
	0	*1*[b]
Other Sign and Sign Supported	10	4
Systems (n=14)	*7*	*2*
Oral English (n=22)	8	14
	0	*14*

Notes: ($p \nless .05$).[a]1 respondent did not provide writing assessment, no dominant language determined for 1 participant. [b]Italics designate the number who completed high school diploma.

APPENDIX J

RANK ORDERING OF CATEGORIES OF RESPONSES BY SUCCESSFUL VS. NON-SUCCESSFUL WRITERS

APPENDIX J - TABLE 1

Rank ordering of Helpfulness for Individual Statements per Successful vs Non-successful Writers.

Writing Skills

Rank	Statements: Successful	Statements: Non-Successful
1	**L**: I read by myself in school **X**: I felt it was important to learn to learn to write in English **Y**: Teachers showed writing examples **Z**: I used a computer in school	**F**: I watched CC TV/movies at home
2	**H**: Reading & writing were important in my home	**Z**: I used a computer in school
3	**G**: I used a TTY while growing up **V**: Teachers helped me feel like a good writer.	**X**: I felt it was important to learn to write in English
4	**C**: Siblings read to me **F**: I watched CC TV/movies at home **O**: Teachers discussed writing with me	**I**: I drew pictures in elementary school **Q**: Teachers corrected writing for me
5	**A**: My parents read to me **B**: Other adults read to me **D**: There were books in my home **N**: I practiced writing in school	**M**: I watched CC videos at school **R**: Teachers showed me how to edit **T**: Teachers focused on grammar

Table continues

Writing Skills

Rank	Statements	
	Successful	Non-Successful
6	**E**: My family and I wrote notes **Q**: Teachers corrected writing for me **R**: Teachers showed me how to edit	**H**: Reading and writing were important in my home **K**: My teachers read to me **O**: Teachers discussed writing with me **U**: Teachers had high expectations **W**: Teachers helped me feel my writing was important **Y**: Teachers showed writing examples
7	**M**: I watched CC videos at school	**D**: There were books in my home
8	**K**: My teachers read to me **U**: My teachers had high expectations **W**: My teachers helped me feel my writing was important	**L**: I read by myself in school
9	**P**: I chose my own writing topics	**C**: Siblings read to me **N**: I practiced writing in school **V**: Teachers helped me feel like a good writer
10	**T**: Teachers focused on grammar	**P**: I chose my own writing topics
11	**I**: I drew pictures in elementary school	**E**: My family and I wrote notes **G**: I used a TTY while growing up

Table continues

Writing Skills

Rank	Statements Successful	 Non-Successful
12	**S**: My English was criticized	**A**: Parents read to me
13	**J**: I expressed my feelings in writing.	**B**: Other adults read to me **J**: I expressed my feelings in writing **S**: My English was criticized

APPENDIX K

SUGGESTED TEACHING STRATEGIES

APPENDIX K

TEACHING STRATEGIES SUGGESTED BY TEACHERS OF THE DEAF (*AND ONE DEAF ADULT PARTICIPANT).

A wealth of experience prior to writing.

Spoken or manual communication should be well developed first.

Permitting brainstorming of ideas rather than focusing on correct English.

Storytelling

A strong command of ASL

A BiBi approach

Lots of positives

Having lots of deaf teachers

Success in other areas such as math, art, etc.

An accessible, complete language experience in the home, combined with numerous and varied literate materials and experiences in the home.

Learning to read in English

Signed English used/taught

Van Uden's written deposits theory for pre-school/elementary children; Experience chart teaching early

Wordless story books

A fluent language of communication.

Appreciation of ANY reading materials and independent reading.

Good communication

Constant correction from Basics to complex e.g. focus on 1.verb agreement, 2. subject verb object etc.

Solid background in ASL

Translating ASL into written English the student has a chance to make a comparison and develop an understanding of the two languages.

Reading, Reading, Reading!

A family that communicates with the child id if the child uses ASL so does the family.

READING!

Exposure to reading/writing that has a variety of purposes i.e. pleasure, TTY conversations, finding factual info, recipes . . . - in a variety of settings-not only English - also Math, Science, S.S., Photography PE . . .

Daily practice in meaningful writing.

Offer a wide variety of writing experiences-daily journals, stories, research projects, create a classroom newspaper, poetry etc.

Create a classroom atmosphere where reading and writing are expected, encouraged, and valued.

Early language intervention - vocabulary development.

Opportunity to practice oral expressive and written expressive language skills. Instead of criticizing students for errors it is important to choose a few goals to teach and work on at a time.

Students should have the opportunity to self-edit.

Analysis of writing, e.g. identifying topic sentence, conclusion ... practice in formulating sentences; simple, compound, complex.

Having a sample to follow from when writing; format of writing paragraphs, sentences.

Feeling confident, comfortable, willing to put ideas on paper (this is often the most difficult step)

Creating a motivating force to enjoy writing- pride etc.

Experience types of activities kids can relate and write about i.e. trips.

Pictures, drama, use of ASL to explain

Using a variety of media to add interest - videos books,

Activities where they share their writing- Letters, invitations, cards etc.

Share their work with other classes- this is motivating and gives them pride.

I think if they start to enjoy writing then slowly you can work on the grammar - more and more step by step.

They must want to share their experiences and not be afraid of stifled by grammar

Pattern books and compositions work well.

For elementary children(special needs) 1. Book story telling (overhead projector)

2. Video presentation of the story e.g. 'Lion King'

3. Write ideas/story information

4. Final draft on computer word processor.

Early journal/diary introduction, even at the picture stage; daily writing for a real communicative purpose; personalized/individualized writing exercises.

Have the students edit their writing at the very early stage

vocabulary related field trips are given for journal writing

Mindmaps of personal experiences/field trips are a great tool for writing.

Verbal communication/discussion about experiences as necessary to help students develop ideas for writing.

Providing language in sign (ASL) first, a clear concept is presented and elaborated on

Extensive use of visuals and/or hands on experience before children can write about it.

Using the context they have shared!

Discussing together errors in their writing while writing a grammatically correct sentence.

Cloze technique is effective when writing a grammatically correct sentence on an overhead transparency.

In depth novel studies.

Be surrounded by written material e.g. appropriate preschooler books and read to Use of print from early years

Observation of others reading, writing, (on computer etc.)

The opportunity to compare ASL to English, how it's the same and how it's different.

Meeting many Deaf ASL fluent signers

Interpreted and signed performances and movies.

Materials, rewritten plain English.

Exchange or ideas, sharing of cultures.

Combining visual material (story webs, pictures, flannel pieces etc.) with reading and writing.

Relating writing to the student's personal experiences

Role playing - with figures, pictures, students etc.

Modeling by peers - motivation, skills, interest level etc.

Student should become excited about their writing. It should have a purpose and be very meaningful. for example, journals or writing that is centered around personal beliefs and opinions would be a more worthwhile writing experience than a forced "creative story"

*Encourage them to make a connection between thought and print (i.e. use comics).

*provide lots or variety of written samples of other people

*let the children make mistakes, allow them to edit their own mistakes

*teach the children learning strategies regarding reading and writing i.e. SPELT

*make writing a fun activity

*create a writing center/journal period

*increase the students' confidence in writing by allowing them to enter contests etc.

*give them a sense of ownership regarding writing

*teach them fundamental English grammar and whole language approach.